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## TYPHUS FEVER.

Since November 19, 1913, 19 cases of typhus fever have been discovered in immigrants arriving at Atlantic ports from Europe. Seven of these cases arrived at Providence from Marseille and Naples and 12 at New York quarantine, mainly from southern European ports.

Within recent years it has been demonstrated that typhus fever is spread from man to man by the body louse and that apparently this is the only way in which it is spread. This makes the control of the disease comparatively simple when it exists in small foci, and its control even in large outbreaks has been rendered not difficult.

During the latter part of February of this year typhus fever became epidemic in Tokyo, Japan, and from March 20 to April 5 there have been notified 1,750 cases. Epidemics of this size have been exceedingly rare during recent years. In the Tokyo outbreak the fatality rate has been reported to be approximately 12 per cent. This is of interest as showing the variations in the virulence of the disease. Higher fatality rates have been given in times past, also much lower fatality rates, an illustration of the latter being the absence of fatality in the type which has been present to a limited extent in New York City and undoubtedly in other American cities for a number of years. Reference is made to what is known as Brill's disease, but which is without doubt typhus fever.

Immediately upon the onset of the outbreak in Tokyo the Public Health Service officer stationed there, in cooperation with the American consul, put into operation the United States quarantine regulations as they related to ships clearing and passengers embarking for United States ports. Passengers from infected territory are detained, bathed, and their clothing disinfected. It is possible that occasional cases of the disease may arrive at Pacific ports in spite of these precautions, and they should be watched for.

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## SHIP RATS AND PLAGUE.

Since it has been definitely determined that plague is spread by fleas and that the fleas are carried from place to place by rodents, the question of the ridding of ships of rats has become one of para-

mount sanitary interest. Ships from earliest times have been infested with these vermin. This has been due in part to the fact that in most ships the cargo furnishes suitable food and in part to the fact that the structure of ships is usually such that they furnish convenient refuge to the rodents. As one will readily surmise grain and produce carrying ships have been especially attractive to rats.

The consequences have been that the rat has become cosmopolitan, a globe trotter, so to speak. The grey or Norway rat and also the black rat have colonized in all parts of the world, and the globe trotting on the part of these rodents still continues. It is for this reason that they are of particular significance in the spread of plague. The rat by traveling on ships has, since 1894, spread plague to all parts of the world.

Vessels frequently carry cats to keep down the rats, and recently the Surgeon General of the Public Health Service has been encouraging shipping interests to adopt the practice of periodically fumigating vessels for the destruction of vermin. Due to the nature of the construction of ships, however, the destruction of rats either by cats or by fumigation offers considerable difficulty.

In this connection the accompanying photograph is of particular interest. It was forwarded by Surgeon G. M. Corput with the following memorandum:

Every quarantine officer is familiar with the old plea of shipmasters that there is no use of fumigating the cabin of a vessel because there is a cat on board which is an excellent rat-ter and renders it impossible for rats to live in cabin. The inclosed pictures are the result of not believing this story. The British steamship *Ethelhilda* arrived at this station (New Orleans Quarantine) March 18 from the west coast of Africa. The captain assured me that it was impossible for any rats to be in the cabin of his vessel because of the presence of an exceptionally good cat. The cabin was nevertheless fumigated. Through the irony of fate the cat was forgotten. When the cabin was opened up the inclosed picture shows the result. Every part of ship had many rats. The picture is limited however to what was found in the cabin. One cat, 24 rats.

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## THE PASSING OF THE COMMON TOWEL.

On the recommendation of the Secretary of the Treasury the President issued the following executive order September 30, 1913, prohibiting the use of common towels in Government buildings:

[No. 1833].

### EXECUTIVE ORDER.

It is hereby ordered, in the interest of the public health, that the use of roller towels and other towels intended for use by more than one person be discontinued in the public buildings of the United States.

WOODROW WILSON.

WHITE HOUSE, September 30, 1913.



CAT AND RATS FROM CABIN OF S. S. ETHELHILDA.

The use of common towels on common carriers engaged in interstate traffic is prohibited by the following amendment to the interstate quarantine regulations promulgated December 9, 1912:

AMENDMENT TO INTERSTATE QUARANTINE REGULATIONS.

TREASURY DEPARTMENT,  
OFFICE OF THE SECRETARY,  
Washington, December 9, 1912.

*To medical officers of the Public Health Service, State and local health authorities, and others concerned:*

ARTICLE 3, general regulations, is hereby amended by the addition of the following paragraph:

PARAGRAPH 14. Common carriers shall not provide in cars, vehicles, vessels, or conveyances operated in the interstate traffic, or in depots, waiting rooms, or other places used by passengers traveling from one State or Territory or the District of Columbia to another State or Territory or the District of Columbia, any towel for use by more than one person: *Provided*, That towels may be used again after having been sterilized with boiling water.

FRANKLIN MACVEAGH, *Secretary*.

Since 1911 fourteen States have enacted legislation restricting or prohibiting the use of common towels in public places. These States are Arkansas, Connecticut, Iowa, Maine, Massachusetts, Missouri, Montana, Nevada, North Dakota, Ohio, Pennsylvania, South Dakota, Vermont, and Wisconsin. Certain other States have promulgated regulations restricting the use of roller and other types of common towels in public or semipublic places.

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## SCREENING AS AN ANTIMALARIAL MEASURE.

By H. R. CARTER, Senior Surgeon, United States Public Health Service.

There are three methods of malarial prophylaxis in general use:

- (a) Getting rid of the insect hosts—the *Anopheles* mosquitoes.
- (b) Preventing access of these mosquitoes to men.
- (c) Rendering men more or less insusceptible to malaria when infected mosquitoes have access to them.

The last two methods prevent the infection of mosquitoes to some degree, which is also a prophylactic measure.

The first method attacks the problem from the insect end of the chain; the other two from the human end. The first is unquestionably the method of preference where practicable. Unfortunately, it is not always practicable. The others can give, however, a high degree of protection and are, one or both, nearly always available. The relation between the first and the other two may be compared with that between the purification of a water supply by a municipal plant and the filtration or boiling of such a water by each householder or individual for himself. The first is the method of election, yet the

other furnishes pure water and may be the only thing possible, as where there is no municipal control or no municipality.

The object of this paper is to give some points on the second method (*b*), viz, the use of screens in houses and mosquito bars for beds.

#### **Advantage of Screening.**

The advantages of screening are obvious. The malaria-bearing mosquitoes in the United States feed, so far as known, only at twilight and during the night.<sup>1</sup> Being shy, they are also far less apt to bite a man who is moving than one who is quiet. Thus the greatest danger from them is to people asleep at night. If, then, they can be excluded from the house—and good screening properly used will do this—and the family remain in the house after dusk, its members are protected from these mosquitoes, and hence from malarial fevers. Many instances could be given of the good results of this protection, but it seems too obvious to require illustration or to be disputed. We will assume, then, that the advantages of screening as a preventive measure against malaria are granted, and this paper is simply to give the methods of screening judged to be the best. That such a paper is advisable—nay, necessary—is evidenced by the fact that the writer has seen no single house perfectly screened against *Anopheles* mosquitoes since he left the Canal Zone, and he has seen and examined many.

There are certain disadvantages connected with screening, some of which are inherent and some due to faulty methods of application. Screens (1) keep out the air; (2) prevent the use of the window openings to throw things out; (3) make going through the doors more troublesome; (4) are troublesome to keep closed; and finally (5) are an item of cost.

Screening properly planned should avoid these disadvantages as much as is compatible with efficient protection against mosquitoes and proper planning will minimize them.

#### **Openings to be Screened.**

The openings to be screened are of three kinds: Verandas, doors, and windows, and screening is differently applied for the three.

For verandas the screening is stationary: For doors the screens swing on hinges like doors: For windows they are stationary, swinging on hinges, or sliding up and down, as the case may be.

Unless deterred by cost every house furnished with a veranda should have that veranda screened, or a part of it at any rate. Of course, the veranda need be screened only if it is used for a sitting room in the

<sup>1</sup> On the Canal Zone some species feed, exceptionally, during the day and they may, and probably do, so feed in the far south of the United States.

evening. But this is an almost universal practice in malarial districts during much of the malarial season. Even then this screening is of less importance than that of the house itself because one spends many more hours of the night—the feeding time of *Anopheles*—in the house than on the veranda, and because for each hour a sleeper, being still, is more apt to be bitten than one who is awake and thus more or less moving.

The screening of a veranda is costly because it takes a considerable quantity of netting. Since this netting is fastened on permanently it is exposed to weather the year round, instead of being housed during the winter, as is the case with detachable screens, and hence does not last as long. There is, however, no expense for frames and hardware as for window and door screens, and such doors and windows as open on the veranda need not be screened. On the Isthmus, where labor was high and where all screens must remain in place 12 months in the year, it was considered almost as cheap to screen the verandas as to screen the doors and windows opening on them. In the United States this would not be true and the expense of screening verandas will frequently be deterrent. Yet where it can be done the added comfort and safety—for the veranda will be used as a sitting room at night—will more than repay the expense. Of all screening it is the safest, as it has only one opening—the door.

It is not worth while to discuss the advisability of screening the doors and windows. All windows and all doors opening out of doors must be screened, except, of course, those opening into a screened veranda. Screen doors are far more likely to admit mosquitoes than window screens, as the former must be opened frequently while the latter should be opened rarely or not at all. Screen doors also are rather costly. On the Canal Zone, therefore, only two outer doors were allowed to a house.

The things to be considered are:

- (1) The netting common to all screens.
- (2) Frames necessary for doors and advisable for windows.

Springs and fastenings are needed only for doors and such window screens as swing on hinges and will be considered with them.

The netting is attached to the frame by cutting it large enough to fit in a groove which goes around the frame on the inside edge, bending at right angles and coming up flush with the surface. It is secured by a square beading pressed down in this groove, the brads securing it going in at right angles to the plane of the frame. It is thus securely held, the bend of the wire being a prime factor in securing it.

In screening verandas movable frames are not needed and the broad areas of lap on the boards given to the wire covered by a batten—say 2 inches wide—render a groove unnecessary. Where

netting is simply tacked across window openings no groove is possible or needed, but a narrow battan is necessary else the wire will pull out. Wire secured directly by nails will not hold.

#### Materials Used in Screening.

Netting. Wire netting is made of various materials. In Baltimore four different kinds are offered. All of it is obtainable in widths of from 2 feet to 4 feet, the differential between widths being 2 inches. The prices given are by the roll—100 linear feet—and vary, depending on quality and sizes of mesh. Eighteen mesh, for instance, is higher than 12 mesh of the same material and width. The prices given as follows are for 16 mesh:

- (1) Japanned iron—i. e., painted while clean and hot—\$1.50 per 100 square feet.
- (2) Galvanized screening at \$3 per 100 square feet, \$2.50 for No. 14.
- (3) Sherized iron; also called "Galvanoid," sometimes "Rustless." It has a dull finish, not bright like galvanized. Dealers state it is more lasting, \$3.15 per 100 square feet, \$2.65 for No. 14.
- (4) Bronze; also called "composition." Costs \$5.50 per 100 square feet.
- (5) Copper. Same cost as bronze.

In addition, I have seen very fine netting of brass wire (on the revenue cutters in the Gulf) which would almost keep out sand flies. They were reported to be expensive but very lasting.

Remembering that three-quarters of the expense of screening windows, and more than that for screening doors, is for the frame and setting, and that the length of time the screen lasts depends on the quality of the wire, it would seem false economy to use the cheapest netting. For ordinary use I would advise the sherized or the galvanized nettings, although they will not last as long as either the copper or bronze. The japanned iron, however, has lasted in Baltimore since 1902—10½ years, but it was on the outside of windows and under galleries little exposed to the weather, and taken down and stowed in the winter. It was painted once every two years from the third year.

The bronze netting is excellent, stiff enough, and resisting to weather. It is said to last 50 per cent longer than the above, but I have no exact figures.

The copper ought to resist the weather almost indefinitely, but would be ill suited for doors or sliding screens for windows, as it is soft and stretches easily, and a moderate push would open its meshes.

It is to be noted that the farther south we go the shorter the life of a screen, because it remains longer in use each year. Screens should be taken down and stored in the winter. Also the life of a screen is very short on the sea coast on account of the salt in the air. For instance, at the Chandeleur Islands, plain iron screening—

No. 14 painted—did not last the season through. It was replaced by ordinary mosquito bar—bobinet doubled—which lasted the whole of the next season. This, of course, may also be used ashore and will last one season. It is not necessary to double it unless, as was the case above, the bar was unusually coarse.

Naturally, when the netting of a screen is worn out other netting can be stretched over the frame, so it is to some extent misleading to limit the life of a screen by that of its netting. A good frame will last 20 years. Those at the Baltimore Marine Hospital were put on in 1902, by the writer, and are still good, as good as they ever were. They are  $\frac{3}{4}$  inch thick for windows and 1 inch for doors.

#### Size of Mesh.

The size of the mesh of a screen is indicated by its number—thus, No. 16 has 16 meshes to one linear inch—each being, then, less than one-sixteenth of an inch wide by the thickness of the wire. One wishes to use the largest mesh compatible with exclusion of mosquitoes so as to keep out the least air possible. Also the wire being larger with the larger mesh it is less fragile and lasts longer, hence is cheaper. No. 16 will exclude *Anopheles*. No. 18 was adopted on the Isthmus because we wished to exclude *Stegomyia (Aedes) calopus* also, which No. 16 will not do. Where this species exists, as in our seaport towns, No. 18 is necessary for comfort, but No. 16 is sufficient for protection against malarial fever. No. 14 is passable by some *Anopheles*, but if already in place—where economy is important—a coat of thin paint will bring the mesh down to about No. 16 size and also lengthen the life of the screen. It must be thin so as not to close the meshes.

Whether No. 12—the most common size I found in use in North Carolina—can be made safe by two coats of paint I do not know. It would be worth trying and I think it would be reasonably safe, but would then exclude more air than No. 16. Two coats of paint on heavy wire should last a long time. The experiment as to whether No. 12 mesh with two light coats of paint would exclude *Anopheles* could easily be tried.

There is considerable economy in the use of No. 14 netting, painted, in place of No. 16. It is difficult to paint the latter without stopping up the meshes, while No. 14 can be painted. Paint is a perfect preservative against the weather as long as it lasts. There is screening in use in Baltimore—No. 14—which has been painted four times at biyearly intervals. It can not be painted again as the mesh is getting stopped up. The ordinary japanned iron screen, No. 14, thus treated is very economical.



### Frames.

As before said, frames are not used in screening verandas. Netting may also be applied to windows without frames—simply tacked down by battens. This is not, however, the best method—as will be seen later—and for windows, frames had best be used. Frames should be heavy enough not to warp— $\frac{3}{4}$  inch to 1 inch for windows and 1 inch to  $1\frac{1}{4}$  inches for doors, or even  $1\frac{1}{2}$  inches if very large—these measures being of the frame after it is dressed. Those that are immovably secured in place need not be very heavy as they can not warp; yet a light frame is much more apt to be injured in handling—taking out and putting in—than a heavy one. In the long run heavy frames are cheapest. Obviously window screens that swing on hinges—as is sometimes necessary—are doors and must be heavier than those which slide in a fixed groove or, with a groove in themselves, slide over a fixed guide. Both of these arrangements keep them from warping.

Frames must fit tight, for mosquitoes try every point patiently and with infinite perseverance looking for entrance. Where they can not fit absolutely tight let them have broad surfaces of contact, as by the flat surfaces of two boards, as *Anopheles* mosquitoes do not enter by such openings.

For screens that swing on hinges then—doors and some windows—we can not depend on the edge fitting. It will either be too tight and not close in wet weather, or leave an opening in dry. These screen doors must shut against a broad surface—a batten—on the top, bottom, and side, so that no matter whether the door shrinks or not it will shut flat and tight, provided, of course, it does not warp.

Similarly, double screen doors swinging both ways are not allowable. A gap to admit mosquitoes where the edges of the doors join is inevitable. Where a double door is needed one half should be fastened and a broad flange attached to its edge for the other to close against. Possibly metal doors with rubber strips setting out from their edges would be safe. I have never seen them tried. The battens I have recommended, and used, perfectly allow for shrinkage, but would not make up for much warping. Still, I have not found that mosquitoes came in through cracks between broad surfaces or around angles. They seem to fly into holes and struggle through, not to crawl into and through them. Indeed, the writer has had little or no trouble from screen doors warping, but much from not fitting at the edges. Von Ezdorf recommends a very simple method, by the use of canvas strips, for obviating the ill effects of both warping and shrinking. He reports it as entirely satisfactory, as I am sure it must be.

For sliding screens for the lower part of windows the groove or guide on the sides prevents warping and allows for shrinkage, and

there is no difficulty in fitting closely except where the top bar of the screen frame lies flat against the bottom piece of the lower sash when the latter is raised to its fullest extent. There must be some play allowed between the screen and the lower sash, else neither can be moved. Here, however, we have two fairly broad surfaces in apposition and we have not found mosquitoes to enter, even when the opening was, say,  $\frac{1}{10}$  or  $\frac{1}{8}$  inch wide. Von Ezdorf's canvas would doubtless be satisfactory here even were there a larger interval.

### Windows.

Just one word here on the subject of screens for windows. These must vary with circumstances: As the arrangement of the window sashes; The presence of outside shutters; Whether one must open the screen; And the expense.

(1) In all cases it is preferable, and very much preferable, to have the screens immovable, and thus, of course, outside, so that not even carelessness can leave them open. If they can be opened they will at times be left open and at night. The screens should be in frames and these secured in the openings with screws, so that they can be taken down and stowed in the winter. If the upper sash lowers, these screens must extend the whole length of the window. If the upper sash is immovable a half length screen to cover the opening of the lower screen is sufficient. Neither of these allow of the use of outside shutters. If it be necessary to use outside shutters, these screen frames may be made in two parts, one above the other, united by hinges. The lower frame need not be over 12 inches or at most 18 inches high, and should fasten shut by hooks or catches. One will rarely forget to close it tight; and yet that it can be opened is a source of danger, and if one can do without outside shutters it is safest to do so.

(2) Where outside shutters must be retained and the top sash is immovable the outside screen may be retained another way by sliding up just outside the upper sash. This is better than a screen inside the window because it will protect the openings at all degrees of lifting the lower sash, which the inside screen would not do.

(3) When shutters must be used and both window sashes are movable a screen covering the whole opening may be swung on hinges like a door on the inside of the window. Its frame will have to be made extra heavy to prevent warping or have an extra fastening to press and keep it accurately into position when closed. For windows of ordinary width only one leaf of screen should be used hinged on one side and fastening on the other. This screen has the advantage of all inside screens of being protected from the weather and will last longer than outside screens. It is not fitted with springs.

(4) The half screen inside the window to cover the opening of the lower sash and running up and down on guides or in grooves is familiar to everyone, as is the fact that unless pains are taken to raise the lower sash to its full height large spaces are left between this sash and the screen, and between the two sashes as well, through which mosquitoes, flies—even small birds—can come. These screens are safe only when the lower window is raised to its full extent, or close shut—when they are useless. If sufficient pains are taken they are safe—but they are not screens for careless persons.

(5) The ready-to-use adjustable screens, that are put under the lower sash and held in place by its weight are—all that I have seen—valueless. Indeed, they are a disadvantage, turning the house into an *Anopheles* trap. They do keep out some flies.

(6) A window can be screened without using a frame by covering (a) the whole opening, or, when the upper sash is fast (b), the lower part of it with netting directly applied to the window frame and held in place by battens—say three-fourths inch strips. This is entirely effective and, in first cost, much the most economical—as one saves the cost of the frame. Eventually it is not economical, as the wire will have to be left out in the weather the whole year. The shorter the winter—as in the far south—the less important this factor becomes. This arrangement is also decidedly inconvenient to those living in the house—washing windows, etc.

### Doors.

I have spoken of how doors should be fitted so as to shut against battens and the canvas strips recommended by von Ezdorf. In addition doors should:

(1) Open outward—always and invariably—else the mosquitoes which we can see settled on them will be introduced into the house when they are opened.

(2) Not only should there be a broad board for a brace about the level of one's hand in opening the door, but above this board, and below it, there should be on the inside of the door strips of wood—say 1 to 2 inches wide—to protect the wire screening from the push of the hands, knees, or feet of one trying to open it from the inside. Heavy wire screening thus disposed is much better. One does not push from the outside of the door. Both of these devices strengthen the door.

(3) The free edges of doors—i. e., edges opposite the hinges—which are approached by steps from the outside should be about the middle of the steps and, to enter the door, one must open it much wider and hence keep it open longer if he comes up opposite the middle of the door, than opposite the free edge of it. This is not of prime importance, but—especially where *Anopheles* are numerous—of decided advantage.

(4) Doors should be fitted with springs which close them certainly and quickly—even if they do bang. The liquid check springs and the pneumatic check springs are utterly unsuitable as, at the last, the door just crawls shut. Springs on the hinges, if kept tight, are fairly satisfactory, as is the long spiral spring which the door extends as it opens, only on account of the narrowness of the space between the screen door and the true door, it works at an angle which takes much from its effectiveness. A door fitted with this spring must be fitted with a “stop” of some kind—line or cleat—else if the wind catches it partly open it may blow it entirely around—180° from its position when shut—when the spring will have no power to close it.

In my experience—and I have seen many—the most satisfactory spring is one that is fastened to the jamb, on the same side as the hinges, on the outside, and has an arm—14 to 18 inches long—extending along the middle batten of the door. Along this batten is a narrow steel plate, on which runs a small wheel fixed in the arm. The arm is the extension of a spring coil of some power and is by it pressed against the door—this pressure, of course, increasing as the door is opened.

(5) Doors must have proper automatic fastenings, so that when shut they are secure against wind. Stops to prevent their opening too wide are an advantage on all doors. They save the springs. They are a necessity if the long spiral spring is used. Where the screen door shows a tendency to warp, two fastenings some distance apart may be advisable, so as to press it firmly against its battens and hold it flat when shut. To use them gives some extra trouble, but one soon becomes instinctively careful about a screen door and in practice they will be used.

(6) A vestibule with two doors is rarely necessary for *Anopheles*. It was used on the Isthmus, with a pan of burning pyrethrum in it, for the single entrance of the yellow-fever ward, and I have seen vestibules, with smudges of red mangrove, on the Indian River, amidst swarms of *Culex*. They are certainly an added safeguard and where *Anopheles* and money are abundant are advisable.

#### Other Openings.

No direct opening should be left from the outside into a screened house. This goes without saying, yet what I would inculcate is that we must look for these openings, and look for them very carefully. I have recently seen a large veranda very carefully screened, except that the door opened inward, with six scuppers for draining rain water from the floor cut in the baseboard of the screen frame. I could put my finger through them and the board was only half-inch stuff. Keyholes in all out doors, screen or solid, must be plugged up. It isn't sightly, but a small “wad” of newspaper is efficient for this

and also for temporary closing of small accidental holes in the screens. Von Ezdorf, a very careful observer, lays stress on the danger of entrance by the fireplace, coming down the chimney. Of this I have had no experience. Most of my mosquito work has been done in places where there were no fireplaces in the houses. I do not doubt that *Anopheles* do come down a chimney, or some chimneys, and, if so, the entrance must be guarded. Von Ezdorf recommends cloth tacked over the fireplace opening held in place by lath battens.<sup>1</sup>

Apparently the chimneys could be efficiently stopped and, if so, most easily by stuffing bags of hay and newspapers tightly into the throat of the fireplace. They would have to be stuffed in so as to fit tightly all around, not just at random. At the quarantine station on Ship Island, Dr. Burkhalter tells me the tops of unused chimneys are covered with sacking tied on. This is absolutely efficient and protects at one operation all the fireplaces connected with that chimney. It must, however, be difficult to put in place and would have to be removed and replaced if a cool spell requiring fires was followed by a warm one. The flight of certain kinds of *Anopheles*—*albimanus* and *tarsimaculata*—on the Canal Zone, as observed by Le Prince, was high in the beginning and "as it gets dark enough to be hard to see" low—"from one to ten feet above the ground." High chimneys may, then, be safer than low ones. I think none entered by my chimneys in Louisville—a 3½-story building—where *Culex* were very prevalent and *Anopheles* fairly so.

Now there is one thing about small holes by which mosquitoes may enter a screened house which we must notice. *Anopheles* is not a house mosquito. She lives out doors and enters a house only to feed. She enters the house at night and when it begins to get light she tries to leave it. She will try to enter all night long—possibly attracted by the scent of people, but I do not know—and will find a hole, no matter how small, if it exist. She has only a short time to get out, however, and unless the way out is fairly clear she can not do so and has to remain in the house, hiding in dark places and corners; under the bed especially. A screened house with a reasonable number of small holes becomes, then, not a protection but a mosquito trap for collecting *Anopheles*. This I have seen time and again. Frequently very full fed mosquitoes remain in the place of feeding even when there is a clear way out, hiding in dark places.

#### Mosquito Bars for Beds.

- (1) *They should be of fine bobinet.*
- (2) *They should not be made with a slit in the side.* Such a thing is an abomination—and it is common.

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<sup>1</sup> Public Health Reports, Feb. 27, 1914, p. 506.

(3) *They should be hung on a frame*, and a square frame is better than a round one, over the bed. Not too high to prevent one from killing any mosquitoes which have gained entrance. By lashing sticks vertically to the four corners of the bed and joining their tops with cord a frame of cord can be made.

(4) *They should not go outside the bedstead*. Neither the headboard nor the foot should be included, but they should come inside of both so as to be tucked under the mattress all around and they should be full enough and long enough to enable one to do this easily.

(5) *They should be thus tucked under the mattress* when one goes to bed and not allowed to trail on the floor. This will allow any mosquitoes which may be under the bed to get at the sleeper. The wind too may blow the loose bar aside and lift it from the floor.

Even when the bar is perfect and perfectly arranged it does not protect when any part of the sleeper's body comes against it—as the mosquitoes can bite through the bar even if they can not come through it. This was especially noticeable with the narrow cots and hospital beds in the Canal Zone. Of course it furnishes no protection until one has gone to bed—although this being the time of greatest risk of malarial infection is the time when protection is most needed.

Good bars well arranged and carefully used furnish much protection and on account of their cheapness should be universally used in malarial countries. They, however, give far less protection than screens. *Under ordinary conditions of malaria as we have them in the United States careful people in a properly screened house are safe.*

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## ENDEMIC GOITER.

### ITS POSSIBLE RELATIONSHIP TO WATER SUPPLY.

By TALIAFERRO CLARE and CLAUDE C. PIERCE, Surgeons, United States Public Health Service.

The use of certain kinds of water for drinking purposes, especially hard water, has long been considered instrumental in the causation of simple thyroid enlargement. In the Milroy Lectures on the Etiology of Endemic Goiter, delivered before the Royal College of Physicians of London, January, 1913, Maj. Robert McCarrison,<sup>1</sup> of the Indian Medical Service, reviewed exhaustively the literature of the affection and set forth his own conclusions relative thereto, based on actual experimentation.

Endemic goiter is present in many parts of the United States, especially in the region of the Great Lakes and in certain sections of West Virginia. A review, therefore, of McCarrison's lectures in connection with epidemiological observations made in the course of a survey of sections of West Virginia is considered of timely interest.

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<sup>1</sup> The Lancet, January 18 and 25, and February 8, 1913.

**Geographical Distribution.**

Goiter is very generally distributed throughout the entire world, but the incidence of endemicity varies greatly. In certain parts of England the affection is so common as to have acquired specific names according to locality, such as "Derbyshire neck."

Baillarger estimated that in 1874 there were 500,000 cases of goiter in France alone.

In Switzerland 12,207 men were exempted from military duty on account of goiter during the period 1875 to 1881.

In Italy, from 1859 to 1864, 3 per cent of conscripts were excused from service on account of this affection.

McCarrison's observations were made in the heavily infected Gilgit region of the Indian Himalaya Mountains. In a population of 70,000, 2 per cent were recently found to have goiter, and of these, 200, or 14 per cent, were cretins. The percentage of cretins among the goitrous of European countries is even higher, according to McCarrison. The association of cretinism in high proportion among the goitrous people may have an important public health significance to this country in connection with immigration from endemic centers. This condition does not obtain in the United States. In our experience cretinism is a comparatively rare affection in heavily goitrous communities.

Clark examined 13,836 school children in 11 counties of West Virginia during the fall of 1913 and found 1,234 cases of goiter, or 8.91 per cent. He also examined 6,432 public school children in 9 Virginia counties and found 817 cases (12.7 per cent) of simple thyroid enlargement.

*Goiter among West Virginia school children.*

County.	Number examined.	Cases of goiter.	Per cent.	Remarks.
Boone.....	297	7	2.75	Huntington.
Cabell.....	2,947	504	17.10	
Fayette.....	1,463	67	4.57	
Kanawha.....	2,662	139	5.22	
Logan.....	1,046	38	3.63	
McDowell.....	703	92	13.08	
Mercer.....	2,153	258	11.98	
Mingo.....	781	22	2.81	
Raleigh.....	311	6	1.92	
Wayne.....	1,001	99	9.89	
Wyoming.....	472	2	0.42	
Total.....	13,836	1,234	8.91	

*Goiter among Virginia school children.*

County.	Number examined.	Cases of goiter.	Percentage.
Buchanan.....	261	19	7.27
Carroll.....	249	57	22.89
Dickenson.....	358	31	8.65
Grayson.....	1,060	121	11.41
Lee.....	842	115	13.65
Scott.....	504	44	8.73
Smith.....	392	65	16.58
Washington.....	1,097	126	11.48
Wise.....	1,669	239	13.72
Total.....	6,432	817	12.68

Not one case of cretinism was seen among these.

In a study of the geographical distribution of endemic goiter, according to McCarrison, these two facts stand out:

1. Its marked association with mountainous regions.
2. The practical limitation of goiter to temperate and subtropical regions.

It is true that goiter is found among people living in flat countires and that some mountainous regions of Norway and Scotland seem practically free from the disease; still, the vast number of cases are found in mountainous districts, especially of the subtropical and temperate zones.

#### **Influence of Race.**

All races are subject to goiter. One of us has observed a high percentage of goiter among the Indian population of Minnesota, Wisconsin, and Michigan.

In the colored high school at Charleston, W. Va., every girl of the senior class suffered from thyroid enlargement.

It is doubtful if heredity or family predisposition plays an important rôle in endemic goiter. It is more probable that certain families, remaining in one location, are subject to the same injurious influences and develop goiter in greater proportion.

According to a physician of West Virginia, goiter could be traced through several generations of his family and its collateral branches.

It is certainly true that the degree of endemicity varies in different localities, as is markedly shown in the preceding tables.

Goiter has appeared in districts previously free from the disease, and has disappeared from infected areas. These changes have been attributed to change in the water supply.

#### **Seasonal Prevalence.**

In India, the new cases appear and recrudescences take place during the spring and autumn, periods of moderate heat, corresponding to the rainy season or its close. McCarrison infers from this that



the water supply at this period is contaminated by surface drainage from cultivated fields.

Dr. H. A. Barbee, of Point Pleasant, Mason County, W. Va., in a personal communication, related the occurrence in his practice of 16 cases of acute thyroid enlargement in young girls from 14 to 19 years of age, during the period of low water, in the summer of 1913. The water supply of Point Pleasant is from the Ohio River, obtained by wells driven in the river sand at the low-water mark. All of these cases developed within two weeks, were placed on bottled water or boiled water, and within six weeks all had recovered, with the exception of two.

#### **Influence of Age and Sex.**

The most startling feature of epidemics of goiter is their occurrence in endemic centers. Young people are most susceptible. According to McCarrison, susceptible individuals develop thyroid enlargement within six weeks to three months after arrival in a goitrous locality. These incipient goiters almost invariably disappear when the patient leaves the locality where the infection (if such it be) was contracted. He says, moreover, that removal for a short distance will effect a cure, provided the change gives the subject water from another source. We do not consider that change of environment necessarily proves the elimination of the causative agent of goiter, because of the known fact that simple goiter, even in endemic centers, undergoes exacerbations and remissions to the point of complete recovery, without noticeable glandular enlargement. In other words, the gland seems to gain its equilibrium and to adapt itself to an injurious environment.

He also states that in his experience the affected thyroid increases in size with the advent of each spring and autumn, and after the lapse of a few years becomes greatly enlarged. The process is comparable to enlargement of the spleen from repeated malarial attacks.

Goiter is rare in very young children. McCarrison says there is no great disproportion between the sexes up to 20 years of age, but that beyond this period more females are affected than males. Almost one-third of the cases of simple goiter are found in people under 20 years of age. It is evident from our own observations in the medical inspection of arriving aliens, and the record of rejections for enlistment in the military of European countries, that thyroid enlargement in the male is vastly more common in these countries than with us of the United States.

Clark examined 415 pupils of the high school at Huntington, W. Va., and found 128 cases of simple thyroid enlargement, all of them young girls. About 50 per cent of the girl students of this school were affected. Less than one-tenth of 1 per cent of goiter found in his survey of the Virginias was among school boys.

### Occurrence in Animals.

Animals also have goiter, especially mules, horses, and dogs. This is apparently not true of all endemic centers. McCarrison examined all the dogs of a very goitrous village and found none of them affected. However, in the region of the Great Lakes, goiter is reported to be very common among dogs. It seems as if animals have greater powers of resistance to harmful influences in this respect than man. This fact must be borne in mind in attempted experimental production of goiter in the lower animals.

Rats are also susceptible to influences producing goiter. Marine and Lenhart also observed goiter among brook trout in fish hatcheries in Pennsylvania.

### Influence of Water.

Dr. Graf, speaking on the subject of goiter in Vienna, January, 1912, said that in some places recruits were in the habit of drinking water from certain springs, with the result, that after about four weeks of the practice, they showed a marked enlargement of the thyroid gland which caused their rejection by the recruiting authorities of the army. After exemption from military service they would boil water, from the same source of supply, before drinking and effect a cure within a short time.

Further presumptive evidence that goiter is a water-borne disease is furnished by a locality with two sources of water supply, where those using water from one source become affected and those restricted to the other supply remain free from goiter.

This condition exists in certain villages in the Gilgit district in India. Here eight villages, adjacent to each other, derive their water from a neighboring stream and all are badly affected with goiter. Another village in the same district takes its water from a spring and has no goiter.

The drinking of rain or cistern water, or boiled water, in this district is said to prevent goiter. The effect of change of water supply on the incidence of goiter has been recorded in some cases. For instance, in Vienna in 1885, it was noticed that goiter had greatly increased during the previous decade, which was attributed by investigators to the introduction of a water supply from Styria, where goiter is endemic.

Another case where change in water supply is said to have influenced the prevalence of goiter is that of the village of Bozel, in Tarentaise. In this village, during 1848, out of a population of 1,472, there were 900 cases of goiter and 109 cretins. About this time a new water supply was introduced from a source only 800 meters distant, and 16 years afterwards, among practically the same

population, there were only 39 cases of goiter and 58 cretins. Similar improvement has been noted in other localities following the introduction of a new water supply.

#### **The Influence of Geological Formation.**

The chemical constituents and bacterial content of drinking water in any locality are largely influenced by the nature of the soil and the underlying rock strata. Goiter is most prevalent in the regions underlaid by the Silurian, Carboniferous, and Permian systems; while those over the eruptive or crystalline rocks of the Archean group, the sediment of Jurassic, Cretaceous, and post-Tertiary seas, as well as all fresh-water deposits, are comparatively free from the affection.

In some cases goiter does appear in localities over the second group, but in these places the underlying strata are thin and ground water penetrates to lower groups. It is observed also that the influence of the first group is weakened or lost by superimpositions of the fresh-water strata.

Baillarger, in a masterly review of this subject in 1873, concluded that "it had not been shown that goiter prevailed exclusively on any particular soil, but that it seemed to prove that the endemic is extremely common on the dolomite formations and rare on others."

These observations are largely in accord with the geological formation observed, in goitrous districts of the two Virginias, by one of us.

An exception to this general rule is noted in the Northern Peninsula of Michigan, where Clark observed a considerable amount of thyroid enlargement among, but not exclusively confined to, the Indian population. Here the rocks belong to the upper levels of the Algonquin formation of the Huronian period.

On the other hand, over two-thirds of the area of West Virginia is underlaid by the Carboniferous system of rocks, shading off into the Devonian in the southeastern portion and the Silurian limestone of a large part of the section of southwestern Virginia wherein goiter is extremely prevalent.

It is of great interest to note, referring to the tables, that the counties of Virginia and West Virginia underlaid by Carboniferous strata have the lowest percentages of goiter, notably Boone, Fayette, Logan, Mingo, Wayne, and Wyoming, while Cabell County, represented by the city of Huntington, in this survey is on the outer edge of this coal-bearing stratum and has the highest percentage of goiter found in the State.

The same holds true of the Virginia counties investigated. Buchanan and Dickinson counties belong to the carboniferous system and have a lower percentage of goitrous school children than were found in the limestone section represented by Carroll, Grayson, Smyth, and Washington counties.

A very noticeable endemicity of goiter is found along the course of the New River. Rising near the Virginia-North Carolina line, it flows northeast through Grayson and Carroll counties, which have a great amount of simple goiter. It continues into West Virginia in a northwesterly direction, near the Mercer County line, in which county the next highest percentage of goiter was found in that State, to empty, finally, into the Kanawha, near Montgomery. The percentage of goiter found in Fayette County was only 4.57 compared with that of Montgomery, 7.04.

#### **Relationship of Chemical Substances Found in Water.**

A chemical analysis of water in goitrous regions has failed to show any relationship between the dissolved salts and goiter. Goiter has been found endemic in regions of both hard and soft water. The use of hard water seems to favor the development of goiter, but not to cause it. It is inferred, because the thyroid gland regulates the metabolism of calcium and magnesium salts introduced into the body, that when a diseased gland attempts this work hypertrophy takes place.

Répin believes that goitrous waters are radioactive mineral waters of high carbon dioxide content, which hold an excess of calcium and magnesium salts in solution.

Recorded chemical analyses of water of goitrous districts have not shown, to our satisfaction, that goiter may not be a deficiency disease, and that the water of such districts may not be lacking in some ingredient necessary to the animal economy. For instance, the normal thyroid contains a small amount of iodine in combination with protein or albuminous material. This iodine content is greatest in the normal gland, less in the colloid variety, and least in that of the parenchymatous hypertrophic form. The opinion has been advanced therefore that waters of goitrous regions may lack certain chemical constituents, notably iodine.

Efforts have been directed in the past, in so far as the chemical substances in goitrous waters are concerned, to determine what such waters contain, rather than what ingredients necessary to the animal economy may be lacking.

#### **Nature of the Toxic Agent.**

McCarrison believes, from a study of the behavior of endemics and of authenticated outbreaks occurring in his own experience, upon conclusions drawn from the work of Marine and Lenhart upon the disease as it occurs in artificially bred trout, and, finally, upon his own experiments upon man, and more recently Bircher's on rats, that endemic goiter is due to the existence of a specific living excitant.

The Swiss Goiter Commission found that goitrous waters gave a higher bacterial count than nongoitrous waters; and McCarrison has noted the same thing in a certain stream of India. Plate cultures were made, and it was found the farther down the stream, on the banks of which were located numerous villages, the samples were taken, the higher the bacterial count, which coincided with a greater incidence of goiter.

According to McCarrison this seems to show a direct relationship between the affection and the degree of bacterial contamination of the water supply.

Howell reports that in the district where he investigated endemic goiter, in New South Wales, only rainwater was used. In this district, about 20 miles wide by 30 miles long, there are no streams, and the water is collected from roofs into cisterns. These tanks are not frequently cleaned. He examined 100 of these, and all of them gave a very high bacterial count.

McCarrison claims that the presence of endemic goiter in this region can be explained only by the contamination of these tanks by living organisms, and not in any way by dissolved salts.

This view seems to be substantiated in a series of observations by Marine and Lenhart at a fish hatchery located in the mountains of Pennsylvania. The fish houses were placed in series, and the water from the upper flowed through those located farther down the stream. The fish became affected with goiter. On examination it was found that the incidence of goiter varied from no cases among the trout taken from the stream above these houses, to 84 per cent in the house farthest down the stream. It was furthermore observed that the goitrous fish removed from these tanks recovered when placed in clean, fresh water.

Moreover, when nonaffected fish were introduced into the tanks from which goitrous trout had been removed, they also developed goiter. McCarrison thinks this indicates the presence of an exciting agent left behind in the tanks from which the goitrous fish had been removed.

#### Experimental Production of Goiter in Man.

McCarrison conducted a series of experiments to determine the possibility of artificially producing goiter in man, under the following conditions:

The men were volunteers, between ages of 18 and 25; they were newcomers to the district; they were under observation for some time prior to the commencement of the experiment; they lived in a nongoitrous part of Gilgit, under the strictest guard; they were encamped on ground which had never been cultivated; they did no work and were not permitted to handle the soil; they were provided with water for all domestic purposes, brought from a spring in a nongoitrous district, at the point of its exit from the hillside, which, as an added precaution, was boiled.

Water was taken from goitrous streams, after the water had been made muddy by agitation, passed through a Berkfeld filter, and the retained sediment washed off with distilled water. Four ounces of this mixture were given in milk each morning, before the first meal, to each subject.

Of the 36 persons submitted to these experiments, 10 developed notable thyroid enlargement, 5 showed transitory thyroid swelling, and 20 suffered no change. On the other hand, not 1 of the 31 persons who drank the same material after boiling developed goiter. The conclusions drawn by Mr. McCarrison from these experiments were:

1. Thyroid enlargement can be produced in a few weeks by suspended matter separated by filtration from goiter-producing water.
2. Thyroid enlargement can not be so produced when the sediment is boiled.
3. Goiter so produced can not be due to mineral matter, but is due to a living organism.
4. While it can not be positively stated that a Berkfeld filter removes the cause of goiter, water so filtered can not produce goiter within 56 days (the period of McCarrison's experiments).

Bircher, in 1909, arrived at certain conclusions as a result of his experiments in producing goiter in rats, as follows:

1. Thyroid enlargement does not arise until several months' subjection to the toxic substances contained in the water.
2. Goiter can be produced in rats by natural water from goitrous springs.
3. The toxic substances are destroyed by heat (boiling).
4. They are not removed by a Berkfeld filter. (Contrary to McCarrison's observation.)
5. Centrifugalization renders the pathogenic water innocuous.
6. The addition of certain chemicals, as hydrogen dioxide, renders the water harmless. (Marine and Lenhart have shown that the addition of iodine in the form of a small amount of Lugol's solution causes rapid disappearance of thyroid hyperplasia of trout.)
7. Dialysis removes the goiter-producing substance from the water.
8. Substances separated by the membrane of the dialyser can produce the disease.

McCarrison has collected presumptive evidence that soils become infected with the exciting agent of goiter, and that water flowing over or through these soils take up the organism.

Pollution of the soil in itself may not necessarily furnish an infective agent, but may provide the necessary environment for the inciting organism to develop by supplying the proper pabulum for its support. This may explain why the same water may or may not produce goiter.

The ideal conditions for a goitrous region are, according to McCarrison, "a country district, inhabited by agricultural people, living on porous soil, in the presence of abundant organic material." By virtue of the porosity of the soil or the slope of the country, the organic matter is carried by rains to the streams and wells that furnish the water supply of the inhabitants.

It is in limestone regions and mountainous districts that such conditions are usually found; consequently goiter is preeminently a disease of hills, and its relationship to such topography is clear.

In 1909 McCarrison examined the feces of 103 persons suffering with goiter, and in 87 cases found an ameba, which he was not able to classify; in 48 cases it was found in large numbers; in 27, in moderate numbers; and in 12, only in small numbers.

The feces of 101 nongoitrous persons living in the same locality were examined at the same time, and only 29 persons were found to harbor the same ameba; of these 29 cases, 8 had it in plentiful amount, 9 in moderate amount, and 12 in small numbers.

McCarrison also claims to have found a spore-bearing organism in the feces of goitrous persons, that resisted boiling for several minutes. Vaccines made from cultures of this organism seemed to have curative properties.

#### Summary.

After a careful consideration of McCarrison's lectures on the etiology of endemic goiter, our conclusions are as follows:

1. The cause of endemic goiter is not yet determined.
2. The extensive prevalence of goiter in rural communities, where families are widely separated and have separate water supplies, tends to preclude the possibility of the affection being due to a water-borne, living, organic excitant.
3. The enormously greater prevalence of goitrous endemicity in regions underlain by carboniferous, devonian, and silurian strata can certainly bear some relation to the water supplies, which should carry in solution (or do not, as the case may be), the same or similar chemical substances.
4. The observations of Howell on the prevalence of endemic goiter, in an arid region of New South Wales, in which the sole water supply is impounded rain water gathered in cisterns, point to the probability of the affection being due to a deficiency of certain necessary chemical substances.
5. The experiments of Marine and Lenhart, by which goitrous fish were cured by the addition of iodine in the form of Lugol's solution to their water supply, indicate that the affection may be due to a lack of iodine in the drinking water, or in vegetables grown on the soil of goitrous districts. In fact the administration of iodine, either locally or internally, is a recognized method of treatment of the affection in man. Many recoveries are reported as due to this treatment.
6. The experimental production of goiter in man by McCarrison is in need of corroboration. His interpretations are also somewhat indefinite.

## TREATMENT OF RABIES.<sup>1</sup>

### REPORT OF A CASE TREATED UNSUCCESSFULLY WITH QUININE.

By C. L. WILLIAMS, Assistant Surgeon, United States Public Health Service.

In July, 1913, Moon<sup>2</sup> reported experiments on dogs in which three of these animals had recovered from rabies upon treatment with quinine sulphate. Three controls not given quinine ran the usual course of the disease, terminating in death. In October, 1913, Harris<sup>3</sup> reported a case of rabies in a man ending in recovery after intravenous administration of quinine and urea hydrochlorate. No subsequent reports of the use of quinine in this disease have come to the writer's notice.

The following is the report of a typical case of rabies in which quinine was administered without beneficial results:

Patient W. A. S., aged 4 years, male, white. Bitten by bull terrier at 11 a. m., November 2, 1913, near Luna Park, Va., while on a visit to a relation, who owned the dog. Wound was a deep laceration across middle of nose and deep puncture of upper lip. Painted with iodine two hours later and healed readily.

The dog had shown signs of disease while playing with child and child's father. He jumped on the father threateningly and was knocked off, immediately snapping the child in the face. The dog was shot that evening, although the owner protested that it had shown no signs of sickness. The dog's brain was examined at the Bureau of Animal Industry, where it was found to contain negri bodies. There was no history of the dog having bitten other persons or animals.

The child was brought to the Hygienic Laboratory at 3.30 p. m., November 4, and antirabic treatment was immediately begun. The course of the treatment was uneventful, a slight local reaction being present on two days. On November 23, the last day of treatment, the parents stated that the child had been fretful during the preceding night and vomited once or twice. When seen at the laboratory the patient was in excellent spirits and appeared normal and was taken home by Dr. Biggs, who was in attendance on the case. Dr. Biggs reported that the child was restless at that time and spit up a great deal of saliva. About 6 o'clock that evening the child's father called Dr. Biggs on the telephone, reporting that the boy was nervous and restless and had been vomiting. An enema was prescribed and calomel and salol in small doses. At 6 o'clock next morning Dr. Biggs was again called and on going to see the patient found him extremely

<sup>1</sup> The writer is indebted to Dr. Rozier Biggs, of Washington, D. C., for permission to publish this history of the case.

<sup>2</sup> Journ. Infect. Dis., July, 1913.

<sup>3</sup> Journ. A. M. A., Oct. 25, 1913.



excited and in a restless condition, crying out almost continuously with occasional screams, spitting large amounts of saliva and vomiting at intervals. Codeine and sodium bromide were prescribed by rectum and one dose one-eighth grain codeine was given by mouth.

At 11 a. m. the child was visited again by Dr. Biggs, accompanied by Dr. John F. Anderson, Dr. A. M. Stimson, and Dr. C. L. Williams, of the Hygienic Laboratory. The patient was found in a wildly excited state, never still for an instant, but continually throwing out his arms or legs in jerky movements and twisting from one position to another. Saliva flowed from his mouth in an almost steady stream, while at intervals he vomited considerable quantities of dark-brown liquid, evidently blood. He continually cried for water, occasionally varying to milk or tea, but when liquid was brought he pushed it aside, or if swallowing was attempted the fluid was immediately rejected. His parents stated that he had been crying for water, but was unable to drink during the whole night. His restlessness made it impossible to take his temperature; the skin was warm to the touch and pulse rate high. He was very susceptible to external stimuli, unexpected touches causing convulsive movements and light drafts of air from a fan causing him to cry out and shrink away.

A diagnosis of rabies being clear, it was decided at conference to administer quinine intravenously as advised by Moon and Harris as the only treatment offering any hope of cure. Accordingly at noon (12) the child was anesthetized with chloroform for five minutes while 4 grains quinine and urea hydrochloride dissolved in 2 cubic centimeters sterile salt solution were injected in one of the superficial cervical veins. No effect was observed for 45 minutes, when he became a little less restless. About 1 p. m. the vomiting of blood became more frequent and in greater amount, while at the same time a partial paralysis of the throat became evident, the vomitus being ejected with great difficulty, the child nearly suffocating on two occasions. At about 1.50 p. m., after vomiting about 3 ounces of dark-brown blood, which nearly strangled the patient, he had a slight convulsion. When this passed off the child remained very quiet and was distinctly cyanosed. At 2 p. m. he was given an intramuscular injection of 4 grains of quinine and urea hydrochloride in the left buttock, although with hardly any hope of good results. The child remained quiet and cyanosed, and at 2.50 p. m. died from respiratory failure. No autopsy was allowed. Three rabbits and two guinea pigs were injected intramuscularly with some of the saliva. One of the guinea pigs died the next day. The other guinea pig and all of the rabbits have remained well to time when last seen, March 28, 1914.

# PREVALENCE OF DISEASE.

*No health department, State or local, can effectively prevent or control disease without knowledge of when, where, and under what conditions cases are occurring.*

## IN CERTAIN STATES AND CITIES.

### SMALLPOX.

#### Indiana—Evansville.

Surg. Oakley, of the Public Health Service, reported by telegraph that during the week ended April 11, 1914, 19 cases of smallpox had been notified in Evansville, Ind.

#### Maryland—Brunswick.

The State Board of Health of Maryland reported by telegraph April 11, 1914, that 1 case of smallpox had been notified at Brunswick, Frederick County, Md.

#### Texas—Galveston.

Surg. Bahrenburg, of the Public Health Service, reported by telegraph that during the week ended April 10, 1914, 8 cases of smallpox had been notified in Galveston, Tex.

#### Virginia—Norfolk and Vicinity.

Surg. Wertenbaker, of the Public Health Service, reported that during the period from April 1 to 7, 1914, smallpox had been reported in Norfolk, Va., and vicinity as follows: Norfolk city 8 cases, Norfolk County 8 cases, Portsmouth 2 cases.

### Miscellaneous State Reports.

Places.	Cases.	Deaths.	Places.	Cases.	Deaths.
Arizona (Mar. 1-31):			Connecticut (Mar. 1-31):		
Counties—			Counties—		
Maricopa.....	6	1	Hartford.....	2	.....
Santa Cruz.....	1	.....	New Haven.....	8	.....
Yavapai.....	2	.....	Middlesex.....	4	.....
Yuma.....	.....	.....	Total.....	14	.....
Total.....	9	1			

## SMALLPOX—Continued.

## Miscellaneous State Reports—Continued.

Places.	Cases.	Deaths.	Places.	Cases.	Deaths.
<b>Florida (Feb. 1-28):</b>			<b>Illinois (Feb. 1-28)—Contd.</b>		
Counties—			Counties—Continued.		
Alachua.....	33	.....	Dixon.....	16	.....
Brevard.....	1	.....	McLean.....	7	.....
Citrus.....	1	.....	Madison.....	23	.....
Duval.....	4	.....	Metropolis.....	2	.....
Escambia.....	2	.....	Montgomery.....	7	.....
Gadsden.....	1	.....	Morgan.....	5	.....
Hillsboro.....	19	.....	Ogle.....	4	.....
Lee.....	2	.....	Peoria.....	1	.....
Levy.....	2	.....	Pike.....	7	.....
Madison.....	1	.....	Pulaski.....	2	.....
Osceola.....	4	.....	Rock Island.....	12	.....
Volusia.....	33	.....	St. Clair.....	2	.....
Walton.....	1	.....	Shelby.....	1	.....
Total.....	104	.....	Stephenson.....	4	.....
<b>Illinois (Feb. 1-28):</b>			Vermillion.....	1	.....
Counties—			Warren.....	4	.....
Adams.....	9	.....	Joliet.....	4	.....
Alexander.....	6	.....	Williams.....	32	.....
Bureau.....	5	.....	White.....	28	.....
Calhoun.....	1	.....	Whiteside.....	67	.....
Carroll.....	5	.....	Winnebago.....	48	.....
Champaign.....	10	.....	Total.....	411	.....
Cook.....	11	.....	<b>Utah (Feb. 1-28):</b>		
Crawford.....	1	.....	Counties—		
Franklin.....	2	.....	Box Elder.....	6	.....
Fulton.....	9	.....	Cache.....	33	.....
Gallatin.....	3	.....	Juab.....	1	.....
Greene.....	6	.....	Millard.....	3	.....
Grundy.....	24	.....	Morgan.....	10	.....
Hamilton.....	4	.....	Salt Lake.....	45	.....
Hancock.....	1	.....	Utah.....	1	.....
Henry.....	2	.....	Wasatch.....	2	.....
Jefferson.....	2	.....	Weber.....	15	.....
Kane.....	24	.....	Total.....	116	.....
La Salle.....	7	.....			
Lawrence.....	2	.....			

## City Reports for Week Ended Mar. 28, 1914.

Places.	Cases.	Deaths.	Places.	Cases.	Deaths.
Altoona, Pa.....	1	.....	Milwaukee, Wis.....	40	.....
Austin, Tex.....	1	.....	Muncie, Ind.....	2	.....
Baltimore, Md.....	23	.....	Nashville, Tenn.....	15	.....
Butte, Mont.....	11	.....	Newport, Ky.....	1	.....
Chicago, Ill.....	3	.....	Philadelphia, Pa.....	1	.....
Cincinnati, Ohio.....	10	1	Portsmouth, Va.....	2	.....
Cleveland, Ohio.....	1	.....	Racine, Wis.....	2	.....
Coffeyville, Kans.....	4	.....	Richmond, Va.....	4	.....
Columbus, Ohio.....	7	.....	St. Louis, Mo.....	3	.....
Danville, Ill.....	1	.....	San Francisco, Cal.....	5	.....
Detroit, Mich.....	13	.....	Seattle, Wash.....	5	.....
Duluth, Minn.....	5	.....	Spokane, Wash.....	6	.....
Evansville, Ind.....	14	.....	Superior, Wis.....	1	.....
Kalamazoo, Mich.....	1	.....	Taunton, Mass.....	1	.....
Knoxville, Tenn.....	11	.....	Toledo, Ohio.....	42	.....
Lexington, Ky.....	10	.....	Washington, D. C.....	6	.....
Little Rock, Ark.....	4	.....	Wilmington, N. C.....	1	.....
Lynchburg, Va.....	5	.....	Zanesville, Ohio.....	4	.....

## TYPHOID FEVER.

## City Reports for Week Ended Mar. 28, 1914.

Places.	Cases.	Deaths.	Places.	Cases.	Deaths.
Ann Arbor, Mich.	2		Lowell, Mass.	1	
Atlantic City, N. J.	1		Marinette, Wis.		1
Aurora, Ill.		1	Milwaukee, Wis.	1	
Baltimore, Md.	5	1	Moline, Ill.	1	
Bayonne, N. J.	1		Morristown, N. J.	1	
Beaver Falls, Pa.	1		Nashville, Tenn.	2	
Boston, Mass.	5	2	Newark, N. J.	1	
Braddock, Pa.	1		New Orleans, La.		1
Buffalo, N. Y.		1	Niagara Falls, N. Y.	1	
Cambridge, Mass.	2		Oakland, Cal.	3	
Cambridge, Ohio	1		Philadelphia, Pa.	14	1
Chicago, Ill.	11	4	Pittsburgh, Pa.	2	3
Chicopee, Mass.	1		Pittsfield, Mass.	2	
Cincinnati, Ohio	2	1	Providence, R. I.	3	
Cleveland, Ohio	6		Reading, Pa.	1	
Columbus, Ind.	1	1	Richmond, Va.	1	
Columbus, Ohio	2		Rockford, Ill.	1	
Dayton, Ohio	1		Rutland, Vt.	1	
Detroit, Mich.		3	Sacramento, Cal.	3	
Dunkirk, N. Y.	10	1	Saginaw, Mich.	1	
East Orange, N. J.	1		St. Louis, Mo.	3	
Erie, Pa.	2		San Diego, Cal.	1	1
Evansville, Ind.	2		San Francisco, Cal.	8	1
Fall River, Mass.	5		Seattle, Wash.	2	1
Fitchburg, Mass.	1		South Bend, Ind.	1	
Grand Rapids, Mich.	7		Toledo, Ohio		1
Harrisburg, Pa.	2	1	Trenton, N. J.	3	
Jersey City, N. J.	2		Washington, D. C.	2	1
Lynn, Mass.	3		Wheeling, W. Va.	2	
Los Angeles, Cal.	6	1	York, Pa.	2	

## CEREBROSPINAL MENINGITIS.

## City Reports for Week Ended Mar. 28, 1914.

Places.	Cases.	Deaths.	Places.	Cases.	Deaths.
Baltimore, Md.		1	Lexington, Ky.		1
Boston, Mass.	2	1	Milwaukee, Wis.	1	1
Butte, Mont.		2	New Bedford, Mass.	1	
Chicago, Ill.	1	3	New Orleans, La.	2	
Cincinnati, Ohio.	3		Philadelphia, Pa.	1	
Cleveland, Ohio.	1	1	Pittsburgh, Pa.	1	
Dunkirk, N. Y.		1	Rochester, N. Y.	1	
Erie, Pa.	1		St. Louis, Mo.	1	1
Jersey City, N. J.	2	2	San Francisco, Cal.		2
Lawrence, Mass.		2			

## POLIOMYELITIS (INFANTILE PARALYSIS).

During the week ended March 28, 1914, poliomyelitis was notified in cities as follows: Chicago, Ill., 1 case; Harrisburg, Pa., 4 deaths; Trenton, N. J., 1 death.

**ERYSIPELAS.****City Reports for Week Ended Mar. 28, 1914.**

Places.	Cases.	Deaths.	Places.	Cases.	Deaths.
Ann Arbor, Mich.	1		Milwaukee, Wis.	7	
Binghamton, N. Y.	1		Newark, N. J.		1
Boston, Mass.		2	Niagara Falls, N. Y.	1	
Bridgeport, Conn.		1	Passaic, N. J.	7	
Brockton, Mass.	1	1	Philadelphia, Pa.	30	4
Chicago, Ill.	27	5	Pittsburgh, Pa.	6	
Cincinnati, Ohio.	8	1	Providence, R. I.		1
Cleveland, Ohio.	9		Reading, Pa.	3	
Cumberland, Md.	1		Rochester, N. Y.	4	1
Dayton, Ohio.	2		St. Louis, Mo.	17	3
Duluth, Minn.	3		San Francisco, Cal.	4	
Harrisburg, Pa.	2		Steelton, Pa.	1	
Jersey City, N. J.	2		Yonkers, N. Y.	1	
Johnstown, Pa.	2	1	York, Pa.	2	
Kalamazoo, Mich.	1		Wilkinsburg, Pa.	1	
Los Angeles, Cal.	2				

**PELLAGRA.**

During the week ended March 28, 1914, pellagra was notified by cities as follows: Coffeyville, Kans., 1 case with 1 death; Lynchburg, Va., 1 death; Richmond, Va., 1 death.

**PLAGUE.****California—Plague-Infected Squirrel Found.**

During the week ended March 28, 1914, a plague-infected squirrel was found in San Benito County, in the vicinity of Hollister.

**Maintenance of a Squirrel-Free Zone.**

During the week ended March 28, 1914, 248 acres of land in Alameda County, 491 in San Joaquin County, and 212 in Stanislaus County, were treated with squirrel destructors.

**Rats Collected and Examined.**

Places.	Week ended—	Found dead.	Total collected.	Examined.	Found infected.
California:					
Cities—					
Oakland.....	Mar. 28, 1914	24	473	388	.....
Berkeley.....	do.....	0	151	115	.....
San Francisco.....	do.....	22	1,577	1,194	.....

**PNEUMONIA.****City Reports for Week Ended Mar. 28, 1914.**

Places.	Cases.	Deaths.	Places.	Cases.	Deaths.
Ann Arbor, Mich.	1		New Castle, Pa.	4	
Auburn, N. Y.	3	1	Newport, Ky.	5	5
Beaver Falls, Pa.	2		Norristown, Pa.	1	1
Binghamton, N. Y.	11	5	Philadelphia, Pa.	56	116
Chicago, Ill.	205	157	Pittsburgh, Pa.	40	55
Cleveland, Ohio.	36	18	Rochester, N. Y.	7	17
Duluth, Minn.	1		San Diego, Cal.	1	1
Dunkirk, N. Y.	3	1	San Francisco, Cal.	11	9
Erie, Pa.	1		Saratoga Springs, N. Y.	1	1
Grand Rapids, Mich.	4	8	Schenectady, N. Y.	4	2
Los Angeles, Cal.	9	7	York, Pa.	2	
Manchester, N. H.	5	5	Wilkinsburg, Pa.	3	

**RABIES.****California—Oakland and San Francisco—Rabies in Animals.**

Surg. Long, of the Public Health Service, reported by telegraph that during the week ended April 11, 1914, rabies in dogs had been reported as follows: One case each in Oakland and San Francisco, Cal.

**Washington—Seattle—Rabies in Animals.**

Surg. Lloyd, of the Public Health Service, reported by telegraph that during the week ended April 11, 1914, 7 cases of rabies in dogs had been reported in Seattle, Wash.

**Washington—Pierce County.**

The State Commissioner of Health of Washington, Eugene R. Kelley, reported April 5 the occurrence of a fatal case of rabies in Pierce County, Wash. The report states: "Three weeks ago Mr. M. was bitten by a pet dog, taking the Pasteur treatment seven days after being bitten. Thirteen days of treatment were administered. On the fourteenth day Mr. M. developed a rapidly ascending paralysis, which began in the toes and finally involved the muscles of respiration, which caused his death. He died on the twenty-second day from the date of the bite. The doctors in attendance have given out the following report:

As the result of a special examination of the brain of Mr. M., made Saturday, April 4, [positive evidence of rabies was found. \* \* \*

**TETANUS.**

During the week ended March 28, 1914, tetanus was notified by cities as follows: Baltimore, Md., 1 death; Chicago, Ill., 1 death; Cleveland, Ohio, 1 death; St. Louis, Mo., 1 case with 1 death.

**TYPHUS FEVER.****New York—New York City Quarantine.**

The health officer of the port of New York reported by telegraph April 13, 1914, that 4 cases of typhus fever from among Greek immigrants had been removed from the steamship *Celtic* from Naples.

**Rhode Island—Providence.**

Surg. Grubbs, of the Public Health Service, reported by telegraph April 15, 1914, that 3 cases of typhus fever had been removed from the steamship *Madonna* arrived from Naples on the date of the telegram. The patients are all Greeks.

## SCARLET FEVER, MEASLES, DIPHTHERIA, AND TUBERCULOSIS.

## Memphis, Tenn.—Measles.

Surg. Kalloch, of the Public Health Service, reported by telegraph that during the period from April 1 to 12, 1914, 320 cases of measles had been notified in Memphis, Tenn.

## City Reports for Week Ended Mar. 28, 1914.

Cities.	Popula- tion, United States census 1910.	Total deaths from all causes.	Diph- theria.		Measles.		Scarlet fever.		Tuber- culosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Over 500,000 inhabitants:										
Baltimore, Md.	558,485	267	27	3	16	.....	37	3	24	31
Boston, Mass.	670,585	258	48	6	75	2	136	4	45	20
Chicago, Ill.	2,185,283	795	132	17	108	4	122	6	231	77
Cleveland, Ohio	560,663	215	29	3	44	3	16	2	32	21
Philadelphia, Pa.	1,549,008	633	50	6	377	3	67	8	114	51
Pittsburgh, Pa.	533,905	230	19	2	40	1	96	7	37	17
St. Louis, Mo.	687,029	279	45	6	155	3	33	4	59	32
From 300,000 to 500,000 inhab- itants:										
Buffalo, N. Y.	423,715	204	22	1	35	.....	17	.....	38	25
Cincinnati, Ohio.	364,463	181	14	2	3	.....	4	1	32	24
Detroit, Mich.	465,766	209	32	3	.....	1	27	1	.....	11
Los Angeles, Cal.	319,198	117	5	.....	8	.....	16	.....	53	21
Milwaukee, Wis.	373,857	134	20	6	59	1	54	4	32	16
Newark, N. J.	347,469	141	30	2	305	4	61	2	42	19
New Orleans, La.	339,075	172	30	2	45	2	7	.....	48	30
San Francisco, Cal.	416,912	137	11	.....	68	1	14	.....	25	14
Washington, D. C.	331,069	148	3	.....	47	.....	5	.....	22	15
From 200,000 to 300,000 inhab- itants:										
Jersey City, N. J.	267,779	92	14	2	15	.....	16	1	16	13
Portland, Oreg.	207,214	.....	1	.....	83	.....	6	.....	.....	.....
Providence, R. I.	224,326	75	17	1	17	4	10	.....	3	5
Rochester, N. Y.	218,149	81	3	2	93	.....	40	2	13	3
Seattle, Wash.	237,194	59	2	.....	9	.....	3	.....	.....	5
From 100,000 to 200,000 inhab- itants:										
Bridgeport, Conn.	102,054	35	9	1	7	2	3	.....	1	3
Cambridge, Mass.	104,839	33	4	.....	37	.....	5	.....	9	5
Columbus, Ohio.	181,548	76	2	.....	42	.....	10	.....	7	8
Dayton, Ohio.	116,577	52	12	2	22	1	8	.....	1	5
Fall River, Mass.	119,295	34	1	.....	1	.....	5	.....	6	6
Grand Rapids, Mich.	112,571	41	6	2	31	.....	5	2	2	2
Lowell, Mass.	106,294	37	9	.....	47	1	1	.....	2	2
Nashville, Tenn.	110,364	61	2	.....	4	.....	5	.....	5	8
Oakland, Cal.	159,174	42	2	2	11	.....	5	.....	5	2
Richmond, Va.	127,628	65	5	.....	20	4	4	.....	6	2
Spokane, Wash.	104,402	.....	1	.....	44	.....	4	.....	2	2
Toledo, Ohio.	168,497	62	3	.....	.....	.....	3	.....	.....	9
Worcester, Mass.	145,986	47	4	.....	13	.....	7	.....	8	5
From 50,000 to 100,000 inhab- itants:										
Altoona, Pa.	52,127	16	2	.....	1	.....	3	.....	.....	.....
Bayonne, N. J.	55,545	.....	.....	.....	.....	.....	6	.....	11	.....
Brockton, Mass.	56,878	26	4	.....	9	.....	12	.....	4	2
Camden, N. J.	94,538	.....	.....	.....	2	.....	3	.....	10	.....
Duluth, Minn.	78,466	21	4	.....	5	.....	18	.....	6	.....
Erie, Pa.	66,525	37	3	.....	4	.....	1	.....	5	.....
Evansville, Ind.	69,647	31	.....	.....	1	.....	2	.....	.....	3
Harrisburg, Pa.	64,166	24	2	.....	37	.....	9	.....	8	1
Hartford, Conn.	98,915	48	9	.....	16	.....	6	.....	.....	3
Hoboken, N. J.	70,324	.....	4	1	15	4	4	.....	15	3
Johnstown, Pa.	55,482	23	4	.....	10	.....	1	.....	.....	1
Lynn, Mass.	89,336	25	5	.....	.....	.....	14	.....	5	2
Manchester, N. H.	70,063	28	1	.....	1	.....	13	.....	2	2
New Bedford, Mass.	96,652	27	5	1	.....	.....	4	.....	14	2
Passaic, N. J.	54,773	30	.....	.....	10	.....	4	.....	2	1
Pawtucket, R. I.	51,622	.....	.....	.....	.....	.....	3	.....	.....	3
Reading, Pa.	96,071	36	2	.....	3	.....	16	.....	2	5
Saginaw, Mich.	50,510	20	2	.....	.....	.....	3	.....	.....	2
Schenectady, N. Y.	72,826	25	2	.....	1	.....	5	.....	.....	1

## SCARLET FEVER, MEASLES, DIPHTHERIA, AND TUBERCULOSIS—Contd.

City Reports for Week Ended Mar. 28, 1914—Continued.

Cities.	Popula- tion, United States census 1910.	Total deaths from all causes.	Diph- theria.		Measles.		Scarlet fever.		Tuber- culosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
From 50,000 to 100,000 inhab- itants—Continued.										
South Bend, Ind.	53,684	13	2		1					1
Springfield, Ill.	51,678	17								1
Trenton, N. J.	96,815	51	1		1		39	4	8	5
Wilkes-Barre, Pa.	67,105	26	1		54		10	1	6	
Yonkers, N. Y.	79,803	21	12	1	9		7		1	5
From 25,000 to 50,000 inhabitants:										
Atlantic City, N. J.	46,150	8			5		7		1	
Auburn, N. Y.	34,668	10	3		27		5		5	
Aurora, Ill.	29,807	11					2			2
Austin, Tex.	29,860	13				1				
Binghamton, N. Y.	48,443	23			38		2		4	4
Brookline, Mass.	27,792	8	1		3		2			
Butte, Mont.	39,165	20	1		7		4			6
Chelsea, Mass.	32,452	11	4		8		13		5	
Chicopee, Mass.	25,401	7	2				2		3	1
Danville, Ill.	27,871	5			2					1
East Orange, N. J.	34,371		1		31		4	1	2	
Elmira, N. Y.	37,176	18	1				1			1
Everett, Mass.	33,484	4	1				6		5	1
Fitchburg, Mass.	37,826	5	4						2	
Haverhill, Mass.	44,115	14					10		9	2
Kalamazoo, Mich.	39,437	19			78		1		10	2
Knoxville, Tenn.	36,346				16		1			
La Crosse, Wis.	30,417	13	1				2			3
Lexington, Ky.	35,099	26	2	1	17		2		1	4
Little Rock, Ark.	45,941	27	1		84				1	
Lynchburg, Va.	29,494	17			1				1	2
Newcastle, Pa.	36,280		1				2			
Newport, Ky.	30,309	14					3		1	1
Newport, R. I.	27,149	10	1				6			
Newton, Mass.	39,806	7	1		16		4		1	
Niagara Falls, N. Y.	30,445	11							1	1
Norristown, Pa.	27,875	8	1		49		7			
Orange, N. J.	29,630	10	2		31		3	1	8	
Pittsfield, Mass.	32,121	11	1		1		2		1	
Portsmouth, Va.	33,190	11								1
Racine, Wis.	38,002	14					2			
Roanoke, Va.	34,874	11			38		4		1	1
Rockford, Ill.	45,401	14	7				6			4
Sacramento, Cal.	44,666	19	2				4			3
San Diego, Cal.	39,578	4			1				3	2
South Omaha, Nebr.	26,259	13	1				1			
Superior, Wis.	40,384	10	1				9			
Taunton, Mass.	34,259	20	1		2		9			1
Waltham, Mass.	27,834	4			8		2			
West Hoboken, N. J.	35,403	3					2		6	
Wheeling, W. Va.	41,641	15	2		1				5	1
Wilmington, N. C.	25,748	9	2		17					
York, Pa.	44,750		2				1		4	
Zanesville, Ohio.	28,026		3				2			
Less than 25,000 inhabitants:										
Alameda, Cal.	23,383	6			4		1		2	3
Ann Arbor, Mich.	14,817	8							5	
Beaver Falls, Pa.	12,191						1			
Braddock, Pa.	19,357		2		6		5			
Cambridge, Ohio.	11,327	7					3			
Clinton, Mass.	13,075	13	1				8	1		1
Coffeyville, Kans.	12,687				18					
Columbus, Ind.	8,813	3			6		2		2	2
Concord, N. H.	21,497	5								1
Cumberland, Md.	21,839	1			3		6		3	
Dunkirk, N. Y.	17,221	5			1		8	1	2	
Galesburg, Ill.	22,089	5	1						2	2
Harrison, N. J.	14,498		2		4		2		1	
Kearny, N. J.	18,659	7	1	1	8		2		1	1
Marinette, Wis.	14,610	4			1					
Massillon, Ohio.	13,879	5	2	1	1					
Medford, Mass.	23,150	5					9			
Melrose, Mass.	15,715	7					3			1
Moline, Ill.	24,199	7								
Montclair, N. J.	21,550	9			50		1			



## SCARLET FEVER, MEASLES, DIPHTHERIA, AND TUBERCULOSIS—Contd.

City Reports for Week Ended Mar. 28, 1914—Continued.

Cities.	Popula- tion, United States census 1910.	Total deaths from all causes.	Diph- theria.		Measles.		Scarlet fever.		Tuber- culosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Less than 25,000 inhabitants— Continued.										
Morristown, N. J.....	12,507	8							1	
Muncie, Ind.....	24,005	7			1		6			
Nanticoke, Pa.....	18,877	4	3				2			
Newburyport, Mass.....	14,949	7								
North Adams, Mass.....	22,019	6					1			
Northampton, Mass.....	19,431	5			1				1	
Palmer, Mass.....	8,610	2								
Plainfield, N. J.....	20,550	7	1				3			
Portsmouth, N. H.....	11,269		1				1			
Pottstown, Pa.....	15,599	6	1		2		1			1
Rutland, Vt.....	13,546	5	2				1			
Saratoga Springs, N. Y.....	12,693	4							1	
South Bethlehem, Pa.....	19,973	2	1		7					
Steelton, Pa.....	14,246	5	1		1					
Wilkinsburg, Pa.....	18,924	9					25	2	3	1
Woburn, Mass.....	15,308	6								1

## **IN INSULAR POSSESSIONS.**

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### **HAWAII.**

#### **Examination of Rats and Mongoose.**

Rat and mongoose have been examined in Hawaii for plague infection as follows: Honolulu, week ended March 21, 1914, 387; Hilo, week ended March 14, 1914, 2,530. No plague-infected animal was found.

### **PHILIPPINE ISLANDS.**

#### **Cholera—Plague.**

Cholera and plague have been notified in Manila as follows: Week ended March 7, 1914, 2 cases of cholera with 2 deaths and 1 death from plague; week ended March 14, 1914, 3 cases of cholera with 2 deaths and 2 cases of plague with 1 death.

### **PORTO RICO.**

#### **Examination of Rodents.**

During the week ended March 28, 1914, 681 rats and 270 mice were examined in Porto Rico for plague infection.

# FOREIGN REPORTS.

## CEYLON.

### Plague—Plague Rats—Colombo.

The total number of plague cases notified at Colombo from the beginning of the outbreak, January 25 to February 27, 1914, was 45. Every reported case terminated fatally.

Plague cases have been confined to the native quarters of the city, but plague-infected rats have made their way into the European business section, and on February 24 a plague rat was found dead in the building in which the American consulate is situated. The municipal authorities have instructed all householders to disinfect their premises daily.

In consequence of the outbreak, passengers to the Orient are passing through Colombo without disembarking. All steamship lines have declined to receive third-class passengers whose baggage has not been disinfected.

## CHINA.

### Plague—Hongkong.

April 16, 1914, cable reports from Hongkong stated that during the preceding week there had been 139 cases of plague.

## CUBA.

### Plague—Habana.

Two new cases of plague were notified at Habana April 11, 1914, 1 new case April 12, 1914, and 1 new case April 14, 1914. The case notified April 12 terminated fatally April 14. The total number of cases notified from March 5 to April 14, 1914, was 9, with 2 deaths.

### Communicable Diseases—Habana.

Communicable diseases have been notified in Habana as follows:

MAR. 21-31, 1914.

Diseases.	New cases.	Deaths.	Remain- ing.
Diphtheria.....	15	1	10
Leprosy.....		1	264
Malaria.....			1
Measles.....	55		117
Paratyphoid fever.....	2		2
Plague.....	3	1	3
Scarlet fever.....	37	1	44
Typhoid fever.....	11	1	31
Varicella.....	26		34

**GERMAN EAST AFRICA.****Plague—Dar-es-Salaam.**

A fatal case of pneumonic plague was notified March 13, 1914, at Dar-es-Salaam.

**ITALY.****Quarantine Measures.**

Quarantine measures against the importation of plague have been put in force at Italian ports as follows: March 14, 1914, against arrivals from Rangoon, Burma; March 24, 1914, against arrivals from Larache (El-Araish), Morocco.

**JAMAICA.****Quarantine Circular.**

The following circular, issued by the quarantine board of Jamaica, was forwarded, March 14, 1914, by Vice Consul Bundy:

SIR: I have the honor, by direction of the quarantine board, to inform you that plague is present in Habana.

2. The following regulations are in force until further notice:

Vessels which have been at any port in the provinces of Habana, Matanzas, and Pinar del Rio, Cuba, although they may have called at ports of other countries since, in order to obtain pratique here must be six days out, all well on board, and produce a certificate signed by an officer of the United States Public Health Service certifying that the whole reach and burthen of the vessel have been fumigated since being alongside at a port in the above-named provinces; or be six days out, all well on board, and produce a certificate from the British consul at the port or ports called at in the above-named provinces, certifying that while in such port or ports the vessel was not alongside any wharf or quay and that cargo was not taken on board, or else be fumigated on arrival here. After fumigation free access from the shore to the vessel will be allowed but those on board must remain there for six days after the fumigation or go to the quarantine station for the same period.

3. Vessels in the meantime may accept cargo and passengers from other Cuban ports, except ports in the provinces of Matanzas, Habana, and Pinar del Rio, on the north-bound voyage and will be granted pratique here on next arrival, but vessels on the voyage to Jamaica must not accept cargo from Cuban ports, and the captain of each vessel must produce a certificate from the British consul certifying that cargo was not taken on board. Passengers may be accepted on the voyage to Jamaica but each will be required to produce a certificate signed by the British consul certifying that they have not been in Habana during the preceding six days or complete that period at the quarantine station here. Disinfection of clothing and effects may be required.

4. Vessels from Cuba while alongside here must keep all hatches closed unless in actual use, gangways raised at sunset, or guarded, and all mooring lines protected with rat guards of approved pattern properly set.

5. The regulations set forth above will be rigidly enforced and agents in the interest of their vessels are requested to take the necessary steps to insure a strict compliance with them.

I have the honor to be, sir, your obedient servant,

CHARLES DON,  
*Secretary Quarantine Board.*

AMERICAN CONSUL, Kingston.

## MOROCCO.

## Plague—Fedala.

Two cases of plague with 1 death were notified March 16 at Fedala, Morocco.

## CHOLERA, YELLOW FEVER, PLAGUE, AND SMALLPOX.

## Reports Received During Week Ended Apr. 17, 1914.

## CHOLERA.

Places.	Date.	Cases.	Deaths.	Remarks.
Dutch East Indies: Sumatra— Padang.....	Jan. 5-24.....	57	51	
India: Calcutta.....	Feb. 15-28.....		207	
Madras.....	Mar. 1-7.....	3		
Indo-China: Saigon.....	Feb. 17-23.....	1		
Philippine Islands: Manila.....	Mar. 1-14.....	5	4	
Siam: Bangkok.....	Jan. 25-Feb. 21.....		16	
Straits Settlements: Singapore.....	Feb. 15-21.....	2	2	
Turkey in Europe: Adrianople.....	Feb. 28-Mar. 28....	99	38	Among the military.
Constantinople.....				Mar. 24. 1 fatal case.

## YELLOW FEVER.

Brazil: Bahia.....	Mar. 1-7.....	4	2	
Southern Nigeria: <sup>1</sup> Logos.....	Feb. 13-14.....	2		

## PLAGUE.

Brazil: Bahia.....	Mar. 1-7.....		1	
Ceylon: Colombo.....	Feb. 22-28.....	14	14	
China: Hongkong.....				Apr. 9-16; cases, 139.
Cuba: Habana.....	Apr. 11-14.....	4	1	
German East Africa: <sup>1</sup> Dar es Salaam.....	Mar. 13.....	1	1	Pneumonic.
India: Bombay.....	Mar. 1-7.....	72	59	Total Feb. 1-28: Cases, 45,021;
Calcutta.....	Feb. 15-28.....		10	deaths, 1,005.
Kediri.....	Mar. 1-7.....	50	50	
Indo-China: Saigon.....	Feb. 17-23.....	4		
Mauritius.....	Mar. 23-29.....	5	3	
Morocco: <sup>1</sup> El Arish.....	Mar. 17.....			Present.
Fedala.....	Mar. 16.....	2	1	
Peru: Salaverry.....	Mar. 2-10.....	2		
Philippine Islands: Manila.....	Mar. 1-14.....	2	2	
Siam: Bangkok.....	Jan. 25-Feb. 21.....		13	
Turkey in Asia: Jiddah.....	Mar. 5-11.....	1	1	

<sup>1</sup>From the Veröffentlichungen des Kaiserlichen Gesundheitsamtes, Apr. 1, 1914.

**CHOLERA, YELLOW FEVER, PLAGUE, AND SMALLPOX—Continued.****Reports Received During Week Ended Apr. 17, 1914—Continued.****SMALLPOX.**

Places.	Date.	Cases.	Deaths.	Remarks.
Arabia:				
Aden.....	Mar. 3-9.....		1	Present.
Matarah.....	Mar. 7.....			
Austria-Hungary:				
Krain.....	Mar. 1-7.....	2		
Para.....	do.....	55	25	
Brazil:				
Bahia.....	do.....	2		
Para.....	do.....	55	25	
Pernambuco.....	Jan. 16-Feb. 15.....		6	
Canada:				
Hamilton.....	Mar. 1-31.....	7		
China:				
Antung.....	Mar. 9-15.....	2	1	
Chefoo.....	Feb. 22-Mar. 7.....	2	1	
Hongkong.....	Feb. 15-28.....	5	5	
Shanghai.....	Feb. 2-15.....		5	
Dutch East Indies:				
Java.....	Jan. 15-21.....	114	30	In the western part.
Sumatra—				Present.
Padang.....	Jan. 1-31.....			
Egypt:				
Alexandria.....	Mar. 12-25.....	4	1	
Cairo.....	Mar. 5-11.....	9	5	
France:				
Nantes.....	Mar. 22-28.....	1	2	
Paris.....	Mar. 7-14.....	5		
Germany.....				Total, Mar. 8-28: Cases, 7.
Gibraltar.....	Mar. 15-22.....	1		
Great Britain:				
Aberdeen.....	Mar. 15-21.....	2		
London.....	Mar. 15-22.....	1		
Mexico:				
Aguascalientes.....	Mar. 16-29.....		19	
Chihuahua.....	do.....		4	
Monterey.....	Mar. 8-14.....	1		
Veracruz.....	Mar. 8-28.....	26	18	
Russia:				
Odessa.....	Mar. 1-14.....	1		
Riga.....	Feb. 1-21.....	28		
St. Petersburg.....	Mar. 1-14.....	16	5	
Warsaw.....	Dec. 14-20.....	9	1	
Siam:				
Bangkok.....	Jan. 25-Feb. 21.....		3	
Spain:				
Barcelona.....	Mar. 15-28.....		22	
Valencia.....	Mar. 15-21.....	10		
Switzerland:				
Basel.....	Mar. 8-14.....	9		
Turkey in Asia:				
Beirut.....	Mar. 8-21.....	40	12	
Mersina.....	Mar. 1-7.....	3	3	
Smyrna.....	Feb. 15-Mar. 14.....		12	
Tripoli.....	Mar. 8-14.....	42	3	
Turkey in Europe:				
Constantinople.....	Mar. 15-21.....		1	
Saloniki.....	Mar. 8-14.....		3	

**Reports Received from Dec. 27, 1913, to Apr. 10, 1914.****CHOLERA.**

Austria-Hungary:			
Bosnia-Herzegovina—			
Brod.....	Nov. 13-18.....	2	
Kostjica.....	do.....	1	
Novigrad.....	Oct. 26-Nov. 5.....	1	
Sjekocac.....	Nov. 6.....	1	
Travnik, district.....	Dec. 10-16.....	6	
Vranduk.....	Nov. 20.....	1	
Zenica.....	Oct. 20-Nov. 19.....	9	2

## CHOLERA, YELLOW FEVER, PLAGUE, AND SMALLPOX—Continued.

Reports Received from Dec. 27, 1913, to Apr. 10, 1914—Continued.

## CHOLERA—Continued.

Places.	Date.	Cases.	Deaths.	Remarks.
<b>Austria-Hungary—Continued.</b>				
Croatia-Slavonia—				
Pozenga.....	Nov. 18-Dec. 1....	2		
Syrmien—				
Adasevci.....	do.....	6	2	
Semlin.....	do.....	1	1	
Vitrovice—				
Dobrovic.....	do.....	2	2	
Hungary.....				Total, Sept. 1-Dec. 29: Cases, 729; deaths, 372; Dec. 29, free.
Bacs-Bodrog, district.....	Nov. 9-Dec. 29....	52	31	
Jasz-Nagy-Kun-Szolnok—				
Szolnok.....	Nov. 9-15.....	2	2	
Maramaros.....	Nov. 30-Dec. 6....	1	1	
Pest Pilis—				
Soroksar.....	Nov. 9-22.....	2	1	
Szabolcs—				
Nyiregyhaza.....	Nov. 9-15.....	1	1	
Temes—				
Varasliget.....	do.....		1	
Torontal.....	Nov. 9-Dec. 13....	27	19	
Ung—				
Jasza.....	Nov. 9-15.....	1	1	
Ceylon:				
Colombo.....	Nov. 9-Jan. 17....	33	19	
China:				
Hongkong.....	Nov. 9-Feb. 14....	5	1	
Dutch East Indies:				
Java—				
Batavia and Tanjong Priok.....	Nov. 9-Feb. 14....	47	35	
Do.....	Jan. 18-24.....	1	1	
Samarang.....	Nov. 30-Dec. 27....	47	25	
Sumatra—				
Padang.....	Dec. 1-Jan. 3.....	79	50	
India:				
Bassein.....	Feb. 1-7.....	1	1	
Bombay.....	Nov. 10-Feb. 21....	20	9	
Calcutta.....	Nov. 9-Feb. 14....		576	
Madras.....	Nov. 16-Feb. 28....	11	5	
Negapatam.....	Jan. 4-Feb. 7.....	47	28	
Rangoon.....	Nov. 1-Dec. 31....	5	1	
Do.....	Jan. 1-31.....	2	1	Feb. 1-4: 11 cases with 8 deaths.
Indo-China:				
Laos (Shan States).....	Jan. 1-10.....	10		Along the upper Mekong River.
Saigon.....	Jan. 13-26.....	2		
Philippine Islands:				
Manila.....	Nov. 9-Feb. 14....	81	52	Total, Aug. 23-Jan. 24: Cases, 186; deaths, 124. Third quarter, 1913: Cases, 14; deaths, 6. Jan. 3, 1 fatal case on s. s. Sigismund from Rabal, New Guinea. At the necropsy pathological lesions of cholera and beriberi were found.
Provinces.....				Total, Aug. 23-Dec. 27: Cases, 148; deaths, 94.
Bulacan—				
Bulacan.....	Dec. 14-20.....			Present in vicinity.
Meycauyan.....	do.....			Present.
Capiz.....				Total, Dec. 17-23: Cases, 26; deaths, 18. Feb. 21, still present.
Banga.....	Dec. 17-20.....			Present.
Capiz.....	Jan. 28.....			Do.
Calivo.....	Dec. 17-Jan. 24....			1 death daily.
New Washington.....	do.....			Present.
Cavite—				
Santa Cruz.....	Nov. 13-19.....			Do.
Cebu—				
Cebu.....	do.....			Do.
Opon.....	Nov. 19.....	1		On Mactan Island.
Pampanga.....	Dec. 7-Jan. 28....			Present in Guagua, Macabebe, San Fernando, and other places.
Fangasinan.....	Dec. 19-29.....			Present in Dagupan, Lingayen, San Carlos, and Urdaneta.

**CHOLERA, YELLOW FEVER, PLAGUE, AND SMALLPOX—Continued.****Reports Received from Dec. 27, 1913, to Apr. 10, 1914—Continued.****CHOLERA—Continued.**

Places.	Date.	Cases.	Deaths.	Remarks.
<b>Philippine Islands—Contd.</b>				
<b>Provinces—Continued.</b>				
Rizal—				
Las Pinas.....	Dec. 19-29.....	1		Present.
Pasig.....	Nov. 19.....			Do.
Pateros.....	Jan. 28.....			Do.
Rizal.....	do.....			Total, Nov. 14 to Dec. 7: Cases, 18; deaths, 15.
<b>Roumania.....</b>				
<b>Russia:</b>				
Bessarabia—				
Ismail.....	Oct. 26-Nov. 8....	6	1	
Ekaterinoslav.....	do.....	1		
Kherson.....	do.....	6	9	
Taurida—				
Dneiper district.....	do.....	1	2	
<b>Servia.....</b>				
				Nov. 10-24; 8 cases with 2 deaths in the districts Podrigne and Pojarevat.
<b>Siam:</b>				
Bangkok.....	Nov. 2-Jan. 24....		99	
<b>Straits Settlements:</b>				
Singapore.....	Nov. 2-Jan. 17....	19	17	
<b>Turkey in Asia:</b>				
Alvili.....	Jan. 10-23.....	9	6	
Beirut.....	Dec. 23.....	2	1	From among troops on the s. s. Bahr Amer from Rodosto.
Smyrna.....	Dec. 16-Jan. 8....	11	4	
Trebizond.....	Dec. 9-Jan. 24....	22	16	Dec. 9-16; 6 cases among troops from s. s. Guldjemal. Jan. 17, 1 case in the city.
<b>Turkey in Europe:</b>				
Constantinople.....	Nov. 25-Feb. 15....	141	56	Total, Aug. 2-Feb. 15: Cases, 216; deaths, 96.
Dardanelles.....	Jan. 9-20.....	10	9	
Gallipoli.....	Jan. 1-3.....	2	2	
Pera.....	Jan. 3-10.....	5		
Rodosto.....	Dec. 21-Jan. 9....	22		

**YELLOW FEVER.**

<b>Brazil:</b>				
Bahia.....	Nov. 23-Feb. 28....	9	13	
Ceara.....	Nov. 1-30.....		2	
<b>Ecuador:</b>				
Guayaquil.....	Nov. 1-Dec. 31....	9	6	
Do.....	Jan. 1-Feb. 15....	12	3	
Milagro.....	Jan. 1-Feb. 28....	6	4	
Naranjito.....	Jan. 1-31.....	3	2	
<b>Mexico:</b>				
Merida.....	Dec. 10-11.....	1	1	From Campeche.
Do.....	Jan. 4-10.....	1	1	Do.
<b>Southern Nigeria:</b>				
Lagos.....	Oct. 20-Dec. 28....	5	1	Among Europeans from a vessel Feb. 26, present.
Omitsha.....	Jan. 24.....	1		
<b>Togo:</b>				
Lome.....	Sept. 12.....	1		
<b>Trinidad:</b>				
Brighton.....	Dec. 30.....	1		Total, Nov. 22-Dec. 30; Cases, 10; deaths, 3, including previous reports.
Labrea.....	Mar. 27.....	1		
<b>Venezuela:</b>				
Caracas.....				Feb. 28, 1 case.

**PLAGUE.**

<b>Arabia:</b>				
Debal.....	Mar. 7.....			Present.
<b>Australia:</b>				
Thursday Island Quarantine station.....	May 21.....	5		Pestis minor from s. s. Taynan from Hongkong to Townville.



## CHOLERA, YELLOW FEVER, PLAGUE, AND SMALLPOX—Continued.

Reports Received from Dec. 27, 1913, to Apr. 10, 1914—Continued.

## PLAGUE—Continued.

Places.	Date.	Cases.	Deaths.	Remarks.
Azores:				
Terceira—				
Angra-Heroismo .....	Dec. 21 .....	.....	1	
Brazil:				
Bahia .....	Nov. 23-Feb. 21 .....	25	10	
Pernambuco .....	Dec. 16-31 .....	.....	1	
Do .....	Jan. 1-15 .....	.....	1	
Rio de Janeiro .....	Nov. 16-22 .....	1	1	
British East Africa:				
Kisumu .....	Sept. 12-Oct. 13 .....	2	.....	Jan. 14-Nov. 15, 1913: Cases, 20; deaths, 22.
Mombasa .....	Sept. 12-Dec. 15 .....	31	16	Feb. 6-Dec. 15: Cases, 200; deaths, 173, including previous reports.
Nairobi .....	Sept. 12-Nov. 15 .....	3	3	
Ceylon:				
Colombo .....	Jan. 25-Feb. 7 .....	7	7	
Kandy .....	do .....	1	.....	From Colombo.
Chile:				
Iquique .....	Nov. 9-Jan. 31 .....	18	9	
Do .....	Jan. 11-Feb. 28 .....	14	9	
China:				
Amoy .....	Feb. 18 .....	.....	5	Present in the island. Mar. 7, still present in Amoy.
Hongkong .....	Nov. 2-Feb. 28 .....	111	99	Apr. 9: Cases, 91.
Shanghai .....	Oct. 1-7 .....	1	.....	
Cuba:				
Habana .....	Mar. 5-26 .....	5	1	
Dutch East Indies:				
Java .....				Total in East Java, year 1913: Cases, 11,218; deaths, 10,556.
Provinces—				
Kediri .....	Nov. 1-Dec. 31 .....	547	481	
Do .....	Jan. 1-31 .....	208	192	
Madioen .....	Nov. 1-Dec. 31 .....	151	140	
Do .....	Jan. 1-31 .....	130	115	
Malang .....	Nov. 1-Dec. 31 .....	1,550	1,463	
Do .....	Jan. 1-31 .....	766	657	
Surabaya .....	Nov. 1-Dec. 31 .....	93	95	
Do .....	Jan. 1-31 .....	42	41	
Ecuador:				
Babahoyo .....	Nov. 1-Dec. 31 .....	1	.....	
Duran .....	Dec. 1-31 .....	1	.....	
Do .....	Jan. 1-31 .....	1	1	
Guayaquil .....	Nov. 1-Dec. 31 .....	349	157	
Do .....	Jan. 1-Feb. 28 .....	71	32	
Manta .....	Dec. 1-31 .....	8	.....	
Milagro .....	Nov. 1-Dec. 31 .....	2	1	
Naranjito .....	do .....	3	1	
Yaguachi .....	Nov. 1-30 .....	2	2	
Do .....	Jan. 1-31 .....	1	1	
Egypt.....				Jan. 1-Dec. 24, 1913: Cases, 654; deaths, 304. Jan. 1-Feb. 18: Cases, 15; deaths, 7.
Alexandria .....	Feb. 19 .....	1	1	
Cairo .....	Feb. 13-22 .....	2	.....	
Port Said .....	Feb. 10 .....	2	2	
Provinces—				
Assiout .....	Jan. 5 .....	1	1	
Assouan .....	Dec. 10 .....	1	.....	
Do .....	Jan. 5 .....	1	1	
Fayoum .....	Feb. 10 .....	1	.....	
Garbieh .....	Dec. 11 .....	1	.....	
Do .....	Jan. 15-17 .....	7	2	
Minieh .....	Dec. 9-24 .....	3	1	
Do .....	Jan. 8-29 .....	2	2	
India.....				Total Jan. 1, 1913-Jan. 3, 1914: Cases, 238,198; deaths, 193,875. Jan. 4-31: Cases, 34,714; deaths, 28,061.
Bassein .....	Jan. 4-31 .....	52	37	Total, Jan. 1, 1913-Jan. 3, 1914: Cases, 304; deaths, 283.
Bombay .....	Nov. 9-Feb. 28 .....	228	194	
Calcutta .....	Nov. 2-Feb. 14 .....	.....	22	
Karachi .....	Nov. 9-Feb. 28 .....	282	262	
Madras .....	Nov. 16-Feb. 14 .....	5	3	
Moulmine .....	Jan. 4-24 .....	.....	18	Jan. 1, 1913-Jan. 3, 1914: Cases 574; deaths, 576.
Rangoon .....	Oct. 26-Dec. 31 .....	74	68	
Do .....	Jan. 1-Feb. 14 .....	202	196	

**CHOLERA, YELLOW FEVER, PLAGUE, AND SMALLPOX—Continued.****Reports Received from Dec. 27, 1913, to Apr. 10, 1914—Continued.****PLAGUE—Continued.**

Places.	Date.	Cases.	Deaths.	Remarks.
Indo-China.....				Total Jan. 1-Dec. 31: Cases, 3,961; deaths, 3,742.
Saigon.....	Nov. 11-Feb. 16...	15	1	
Japan.....				Total Jan. 1-Dec. 31: Cases, 27; deaths, 20; exclusive of Taiwan.
Kobe.....	Dec. 1-7.....	1		
Taiwan—				
Kagi.....	Feb. 1-28.....	32	28	
Yokohama.....	Jan. 4-10.....	1	1	Total Sept. 19-Jan. 10: Cases, 22; deaths, 18.
Mauritius.....	Jan. 1-22.....	15	7	Total year 1913: Cases, 305; deaths, 183.
Morocco:				
Casablanca.....	Jan. 7.....	1	1	
El-Araish (Larache).....	Sept. 17.....	1		Among the military.
New Caledonia:				
Bourail.....	Sept. 1-Oct. 14...	8	2	In a school of the tribe of the Azaren.
Peru.....				Deaths not reported.
Ancachs—				
Casma.....	Feb. 9-15.....	2		Dec. 1-Feb. 8, present.
Nepena.....	Nov. 1-Jan. 18.....			Do.
Arequipa—				
Mollendo.....	Dec. 1-Feb. 22....	14		
Cajamarca—				
Contumaza.....	Jan. 19-24.....	12		Feb. 8, present.
Callao—				
Callao.....	Jan. 19-Feb. 22....	7		
Lambayeque—				
Chiclayo.....	Dec. 1-Feb. 15.....	72		
Ferrenaje.....	Dec. 1-Feb. 8.....	18		
Guadalupe.....	Dec. 1-Feb. 22....	21		Dec. 1-Feb. 8, present.
Pacasmayo.....	Jan. 25-Feb. 15....	5		
Libertad—				
San Pedro.....	Dec. 1-Feb. 8.....	34		
Salaverry.....	Feb. 16-22.....	3		
Trujillo.....	Dec. 1-Feb. 22....	73		
Lima.....	Dec. 1-Jan. 18.....	6		
Lima.....	Dec. 1-Feb. 22....	48		
Pisco.....	Dec. 1-Jan. 18.....	2		
Monsefu.....	do.....	2		
Piura—				
Catacaos.....	Dec. 1-Feb. 15.....	13		
Piura.....	Dec. 1-Jan. 24....	10		Feb. 8, present.
Philippine Islands:				
Manila.....	Nov. 23-Feb. 14....	10	9	Third quarter, 1913: Cases, 2; deaths, 1.
Russia:				
Sarotov.....	Feb. 11.....	1		
Ural territory.....				Total Oct. 20-Nov. 10: Cases, 212; deaths, 170; and 2 fatal cases from Issum Tube.
Djakisabevsk district—				
Djumarta.....	Nov. 9-10.....	5	1	
Djantayu.....	Nov. 8-10.....	2	2	
Kizilu.....	Nov. 8.....	1	1	
Fourteenth village.....	Nov. 7-9.....	6		
Sarbas.....	Nov. 8-10.....	13	7	
Kaziljar district.....	Nov. 5-10.....	39	24	In Assaukurt, Baichurek, Biskuduk, and Djamankuduk.
Lbistchensky district—				
Issum Tube.....	Oct. 20-Nov. 10....	138	127	
Kaimikov.....	Nov. 4-10.....	6	6	
Siam:				
Bangkok.....	Nov. 2-Jan. 24....		7	
Tripoli:				
Bengazi.....	Jan. 31.....			Present.
Turkey in Asia:				
Beirut.....	Dec. 10-23.....	2	2	
Jiddah.....	Feb. 2-Mar. 4.....	4	1	
Zanzibar.....	Dec. 31-Jan. 21....	5	3	On s. s. President from Dar-es-Salaam.

## CHOLERA, YELLOW FEVER, PLAGUE, AND SMALLPOX—Continued.

Reports Received from Dec. 27, 1913, to Apr. 10, 1914—Continued.

## SMALLPOX.

Places.	Date.	Cases.	Deaths.	Remarks.
Algeria:				
Departments—				
Algiers.....	Sept. 1-Dec. 31.....	10		
Constantine.....	Oct. 1-Dec. 31.....	15		
Oran.....	Sept. 1-Nov. 30.....	216		Feb. 1-28: Cases, 5; deaths, 4.
Arabia:				
Aden.....	Nov. 25-Feb. 2.....	5	5	
Maskat.....	Nov. 30-Dec. 6.....	10		Dec. 20, present.
Matarah.....	Dec. 23-Jan. 10.....	9		Nov. 30, present; Feb. 14, still present.
Argentina:				
Buenos Aires.....	Nov. 1-30.....		1	
Rosario.....	Dec. 1-31.....	1		
Australia:				
New South Wales.....				Total July 1, 1913-Jan. 31, 1914: Cases, 1,078.
Sydney, metropolitan area.....				July 1, 1913-Jan. 8, 1914: Cases, 1,032. Feb. 1-24, 10 cases in the metropolitan area of Sydney and 6 cases at Singleton.
Western Australia— Freemantle.....				Dec. 2: 1 fatal case on R. M. S. Malwa, from London via Port Said, Aden, and Colombo.
Victoria— Melbourne.....				At Point Napean quarantine station, Jan. 19, 1 case from F. M. S. Caledonian from Noumea via Sydney.
Austria-Hungary:				
Coastland—				
Trieste.....	Jan. 25-31.....	3		
Galicia.....	Feb. 15-21.....	1		
Lower Austria—				
Vienna.....	Jan. 4-24.....	6		
Moravia.....	Jan. 18-Feb. 21.....	5		
Silesia.....	Feb. 15-18.....	1		
Tyrol and Vorarlberg.....	Nov. 23-Feb. 21.....	6		
Upper Austria.....	Dec. 14-Feb. 21.....	20		
Belgium:				
Liege.....	Mar. 1-7.....		6	
Brazil:				
Bahia.....	Nov. 23-Feb. 28.....	28		
Para.....	Dec. 1-Feb. 28.....	25	45	
Pernambuco.....	Nov. 1-Jan. 15.....		70	
Rio de Janeiro.....	Nov. 9-Feb. 15.....	456	83	
Canada:				
Manitoba—				
Winnipeg.....	Feb. 14-Mar. 21.....	15		
Ontario—				
Fort William.....	Feb. 24-Mar. 2.....	1		
Hamilton.....	Jan. 1-Feb. 28.....	23		
Ottawa.....	Dec. 7-Mar. 7.....	22		
Toronto.....	Dec. 7-Mar. 28.....	12	1	
Quebec				
Montreal.....	Dec. 7-Mar. 28.....	75		
Quebec.....	Jan. 24-31.....	1		
Canal Zone:				
Panama.....				Nov. 1-30: Santo Tomas hospital, 1 case from a vessel from Callao.
Ceylon:				
Colombo.....	Nov. 30-Dec. 6.....	1		
China:				
Amoy.....	Dec. 14-Jan. 10.....			Present.
Antung.....	Jan. 4-Feb. 15.....	3		
Dairen.....	Dec. 7-Feb. 14.....	10	3	
Hankow.....	Nov. 2-Feb. 28.....	14	1	
Hongkong.....	Dec. 14-Feb. 14.....	7	5	
Mukden.....	Mar. 8.....			Do.
Nanking.....	Jan. 24.....			Do.
Shanghai.....	Dec. 8-Mar. 1.....	14	13	Deaths among natives.
Tientsin.....	Nov. 9-15.....		1	
Ting Chow.....	Jan. 5.....			Epidemic, 130 miles from Amoy.
Tsing Tau.....	Jan. 15-31.....	2		
Tong An.....	Dec. 27.....			Present, 20 miles from Amoy.
Cuba:				
Sagua la Grande.....	Feb. 1-28.....	1	1	

**CHOLERA, YELLOW FEVER, PLAGUE, AND SMALLPOX—Continued.****Reports Received from Dec. 27, 1913, to Apr. 10, 1914—Continued.****SMALLPOX—Continued.**

Places.	Date.	Cases.	Deaths.	Remarks.
<b>Dutch East Indies:</b>				
Java.....				Dec. 13-Feb. 7: 208 cases with 61 deaths in the western part, and 100 cases with 63 deaths in the interior.
Batavia.....	Nov. 27-Jan. 11...	66	69	
Besoeki.....	Oct. 19-29.....	227	47	
Madloen.....	Oct. 19-28.....	36	12	
Surabaya.....	Oct. 28-Jan. 31.....	6		
Surakarta.....	Oct. 19-Dec. 6.....	481	91	
<b>Egypt:</b>				
Alexandria.....	Nov. 26-Mar. 11.....	25	12	
Cairo.....	Nov. 19-Mar. 4.....	151	79	
Port Said.....	Dec. 3-Mar. 4.....	7	1	
<b>France:</b>				
Bordeaux.....	Mar. 8-14.....		1	
Marseille.....	Nov. 1-Feb. 28.....		113	
Nantes.....	Feb. 1-Mar. 14.....	4		
Nice.....	Nov. 1-Dec. 31.....	2		
Paris.....	Nov. 23-Mar. 7.....	34		
St. Etienne.....	Nov. 16-Mar. 14.....	12	4	
<b>Germany:</b>				Dec. 7-Mar. 7: Cases, 19.
Berlin.....	Feb. 8-14.....	2		
Bremen.....	do.....	1		
Breslau.....	do.....	1		
Hamburg.....	Dec. 11-25.....	4		
Kehl.....	Jan. 1-31.....	1	1	
Lubeck.....	Feb. 15-21.....	1		
<b>Gibraltar:</b>	Dec. 1-Mar. 1.....	5		
<b>Great Britain:</b>				
Aberdeen.....	Feb. 22-Mar. 7.....	4	1	
Cardiff.....	Feb. 16-21.....	1		
Edinburgh.....	Mar. 1-7.....		1	
Liverpool.....	Mar. 15-21.....	1		From a vessel.
London.....	Jan. 18-Mar. 14.....	5		
Nottingham.....	Dec. 21-27.....	28		
Southampton.....	Feb. 2-28.....	1		
<b>Greece:</b>				Jan. 28-Feb. 12: Present in the barracks at Athens and at the surrounding country.
Achaia and Elis, Province.....	Jan. 29.....			Present.
Piraeus.....	Jan. 18-Feb. 12.....	19	11	
<b>Grenada:</b>	Mar. 18.....	3		In St. Andrews Parish, 20 miles from St. Georges.
<b>Guadeloupe:</b>				
Pointe a Pitre quarantine station, Islet a Cosson.....	Feb. 16-23.....	10	1	From among returned troops from s. s. Perou from Havre, via Bordeaux and Santander.
<b>India:</b>				
Bombay.....	Nov. 23-Feb. 28.....	78	35	
Calcutta.....	Nov. 2-Feb. 14.....		77	
Karachi.....	Nov. 2-Feb. 28.....	9	1	
Madras.....	Nov. 2-Jan. 31.....	32	11	
<b>Indo-China:</b>				
Saigon.....	Nov. 11-24.....	1	1	
<b>Italy:</b>				
Genoa.....	Mar. 1-15.....	1	1	
Leghorn.....	Dec. 21-27.....	1		
Naples.....	Jan. 3.....	1		
Turin.....	Dec. 22-28.....	1		
<b>Japan:</b>				Total Jan. 1-Dec. 31: Cases, 108; deaths, 39, exclusive of Taiwan.
Fukuoka ken.....	Dec. 1-31.....	2		
Nagasaki.....	Jan. 1-31.....	1		
Tokyo.....	Nov. 1-Mar. 7.....	10		Feb. 1-Mar. 8: 15 cases, 2 deaths.
Yokohama.....	Jan. 6-12.....	1	1	
<b>Mauritius:</b>	Oct. 2-25.....	60	4	
<b>Mexico:</b>				
Acapulco.....	Dec. 6-Feb. 7.....		2	
Aguascalientes.....	Dec. 1-Mar. 15.....		93	
Chihuahua.....	Dec. 29-Feb. 1.....		10	
Cruz.....	Apr. 2.....			Epidemic in vicinity.
Durango.....	Apr. 1-May 31.....		77	
Guadalaajara.....	Jan. 11-Feb. 14.....	89	46	
Imuris.....	Dec. 29-Jan. 4.....	5		
Juarez.....	Feb. 15-28.....		4	
Llano.....	Jan. 17.....	8		

**CHOLERA, YELLOW FEVER, PLAGUE, AND SMALLPOX—Continued.****Reports Received from Dec. 27, 1913, to Apr. 10, 1914—Continued.****SMALLPOX—Continued.**

Places.	Date.	Cases.	Deaths.	Remarks.
<b>Mexico—Continued.</b>				
La Paz.....	Jan. 16-22.....	3	1	
Mexico.....	Oct. 26-Dec. 27.....	94	27	
Monterey.....	Nov. 17-Mar. 8.....	4	4	
Salina Cruz.....	Jan. 18-24.....	1	1	
San Luis Potosi.....	Nov. 2-Jan. 24.....	4	7	
Tampico.....	Dec. 24-Mar. 10.....	200	58	Feb. 1-24, 22 cases with 16 deaths
Vera Cruz.....	Dec. 6-Feb. 28.....	31	8	
<b>Morocco:</b>				
Casablanca.....	Mar. 7.....			Present.
<b>Netherlands, The.....</b>				
Feb. 8-14.....		1	1	
<b>New Zealand.....</b>				
				Apr. 8, 1913, to Jan. 7, 1914: Cases, 2,000, including report, p. 2863, vol. 23.
<b>Norway:</b>				
Trondhjem.....	Nov. 1-Feb. 28.....	19		
<b>Peru:</b>				
Callao.....	Jan. 26.....			Still epidemic, Mar. 7, improving.
Lima.....	do.....			Do.
<b>Philippine Islands:</b>				
Manila.....				Third quarter, 1913: Cases, 15.
<b>Portugal:</b>				
Lisbon.....	Nov. 16-Feb. 28.....	19		
<b>Russia:</b>				
Moscow.....	Dec. 14-Mar. 7.....	46	9	
Odessa.....	Nov. 16-Feb. 14.....	12	2	
Riga.....	Feb. 22-28.....	7		
St. Petersburg.....	Nov. 23-Feb. 28.....	60	15	
Vladivostok.....	Dec. 22-Jan. 28.....	5		
Warsaw.....	Oct. 5-Dec. 15.....	50	34	
<b>Servia:</b>				
Belgrade.....	Nov. 7-Mar. 7.....	136	49	
<b>Spain:</b>				
Almeria.....	Nov. 1-Jan. 31.....		9	
Barcelona.....	Nov. 30-Mar. 14.....		101	
Madrid.....	Nov. 1-Feb. 28.....		98	
Seville.....	do.....		2	
Valencia.....	Dec. 1-Mar. 14.....	13		
<b>Straits Settlements:</b>				
Penang.....	Nov. 2-Dec. 6.....	13	1	
Singapore.....	Nov. 2-22.....	2		
<b>Switzerland:</b>				
Canton—				
Basel.....	Nov. 23-Mar. 7.....	115		
Genoa.....	Nov. 23-29.....	3	1	
<b>Turkey in Asia:</b>				
Adana.....	Jan. 10-24.....	2		Dec. 28, epidemic.
Beirut.....	Nov. 23-Mar. 7.....	278	125	
Jaffa.....	Dec. 6-Feb. 28.....	25	6	
Jerusalem.....	Feb. 1-28.....	1		
Messina.....	Jan. 4-Feb. 15.....	3		
Smyrna.....	Nov. 16-Feb. 14.....		164	
Tarsus.....	Dec. 28-Feb. 8.....			Still present.
Trebizond.....	Jan. 11-24.....			Present.
Tripoli.....	Jan. 25-Feb. 28.....	51	3	
<b>Turkey in Europe:</b>				
Constantinople.....	Nov. 20-Mar. 6.....		18	
Saloniki.....	Dec. 1-Mar. 7.....		87	

# SANITARY LEGISLATION.

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## COURT DECISIONS.

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### ILLINOIS SUPREME COURT.

#### **Regulations of Local Board of Health—Quarantine.**

PEOPLE V. TAIT, 103 N. E. 750. Decided Dec. 17, 1913.

Oscar Tait was accused of violating a regulation of the board of health of Edwards County, Ill., by "leaving his residence, mingling with other people, and returning thereto, thereby endangering the health and lives of other people," the board of health "having previously established certain rules and regulations for the prevention of the spread of a dangerously communicable disease, to wit, the scarlet fever, and having directed that the said Oscar Tait, his residence, and family be placed under quarantine because a member of his household was infected with a dangerously communicable disease."

Another charge was that he permitted his minor daughter to attend school while afflicted with scarlet fever and "while under the aforesaid quarantine."

He was convicted on two counts and sentenced to pay a fine of \$100, but the supreme court reversed the judgment on the ground that the information on which the prosecution was based was defective.

The following are extracts from the opinion of Mr. Justice Vickers, of the Illinois Supreme Court:

"Paragraph 116 of chapter 34 of Hurd's Statutes of 1911 provides that the board of county commissioners in counties not under township organization shall constitute a board of health, and authorizes the said board, upon the 'breaking out of any dangerously communicable diseases in their county,' to make and enforce 'such rules and regulations tending to check the spread of the disease within the limits of such county or town as may be necessary; and for this purpose they shall have power to quarantine any house or houses, or place where any infected person may be, and cause notices of warning to be put thereon, and to require the disinfection of the house or place.' Paragraph 117 gives said board of health the following powers: 'First. To do all acts, make all regulations which may be necessary or expedient for the promotion of health or the suppression of disease. Second. To appoint physicians as health officers and prescribe their duties. Third. To incur the expenses necessary for the performance of the duties and powers enjoined upon the board. Fourth. To provide gratuitous vaccination and disinfection. Fifth. To require reports of dangerously communicable diseases.' Paragraph 118 provides that 'any person who shall violate or refuse to obey any rule or regulation of the said board of health shall be liable to a fine not exceeding \$200 for each offense, or imprisonment in the county jail not to exceed six months, or both, in the discretion of the court.'

"In *Potts v. Breen*, 167 Ill., 67; 47 N. E., 81; 39 L. R. A., 152; 59 Am. St. Rep., 262, this court had before it the validity of a general rule promulgated by the State board of health, requiring all children to be vaccinated as a condition upon which they would be admitted to the public schools. The rule was held void on the ground that the general delegation of power to the State board of health, when considered in connection with other provisions of the statute defining the purposes of said board, did not authorize

the promulgation and enforcement of the rule without reference to any emergency requiring action on the part of the board to preserve the public health and to prevent the spread of contagious or infectious diseases. While the above decision involves the construction of a different statute from the one upon which the present prosecution is based, the same general principle involved there will apply here, and the rules of construction should be the same in both cases.

"That case holds that boards of health may not exercise the powers vested in them arbitrarily and without reference to existing conditions. It never was the intention of the legislature to grant unlimited discretion to these boards, the exercise of which might deprive citizens of legal rights, when no public necessity existed for so doing. Such boards have neither legislative nor judicial powers. Their functions are purely ministerial, and must be exercised, within reasonable limits, for the purpose of suppressing diseases and preserving the health of the people, which is the purpose for which they are created. The legislature may, in the exercise of the police power of the State, create ministerial boards with power to prescribe rules and impose penalties for their violation, and provide for the collection of such penalties, and the exercise of this power by the legislature is not a delegation of legislative power.

"Plaintiff in error's contention that the act of the legislature of 1901 (Laws 1901, p. 91) is unconstitutional because it delegates legislative power to boards of health can not be sustained. While the power to make reasonable rules and regulations does and must of necessity exist in boards of health, still the exercise of such power must be safeguarded so as to protect the rights of the citizen. Such rules and regulations are not public laws, which are conclusively presumed to be known. It would be monstrous to hold that a citizen was to be penalized for the violation of a rule or regulation of which he had no knowledge, and it would likewise be opening the door for oppression to hold that rules and regulations should be enforced which were not made a matter of record.

"Taking the entire statute into consideration, we think the 'rules and regulations' which boards of health are authorized to make must be written rules, adopted in an official manner, and duly entered of record. To hold otherwise would be to give the legislation a construction which would render it invalid.

"Recurring to the first count of the information, it will be seen that it does not aver the necessary facts to show the existence, as against plaintiff in error, of a valid rule or regulation. It is not averred in the information that the county board of Edwards County made and entered any rule or regulation of record in relation to a class of persons or to conditions which would include plaintiff in error or his premises.

"While it is necessary, to sustain a conviction under this statute, to prove that plaintiff in error had notice of the existence of the rule which he is charged with violating, still it is not indispensable to an information or an indictment under this statute that the word 'knowingly' should be used. That word is not found in the statute upon which the prosecution is based, and is no part of the definition of the offense.

"The rule is that where the word 'knowingly' is used in the statute and forms a part of the definition of the offense, it must be used in the information based upon such statute. (2 Bishop's New Criminal Proc., 482; Bishop on Stat. Crimes, sec. 733.)

"Where, however, the word is not used in the statute, but the offense is of such a character that it is necessary to prove guilty knowledge to make out the charge, proof thereof may be admitted under an indictment alleging that the act was 'willfully and unlawfully committed.' (15 Ency. of Pl. & Pr., 432; Wong v. Astoria, 13 Or., 538, 11 Pac., 295.)

"The information was sufficient in this regard. An information, like an indictment, must allege every fact essential to the existence of the offense charged, and no presumptions are indulged in its support when its sufficiency is challenged by a motion to quash. The information does not allege, even inferentially, that any rule or regulation had been established of record the effect of which was to place the residence of

plaintiff in error under quarantine. The allegation on this point in the information is 'having directed that the said Oscar Tait, his residence, and family be placed under quarantine.' The penalty imposed by paragraph 118 of the statute is for the violation of the rules and regulations of the board of health. A direction that a thing be done may be an entirely different matter from a rule requiring it to be done. Plaintiff in error could not incur the penalties of the statute for violation of a mere direction unless embodied in a duly established rule.

"Plaintiff in error makes the further point that the information fails to show the existence of any emergency justifying the action of the board of health. If it was affirmatively shown that a single case of scarlet fever or other dangerous and communicable disease existed in a house, we think that that would be sufficient to call the powers of the board into action. It is not necessary that the board should wait until the disease is extended to other localities or other persons in the same locality. There is, however, no affirmative allegation here that a case of scarlet fever existed at the place directed to be placed under quarantine. The allegation is that a case of scarlet fever existed in the 'household' of the plaintiff in error. The word 'household' is equivalent to the word 'family.' It need not necessarily be a wife or child. (4 Words and Phrases, 3361.) Manifestly, to justify quarantine, the afflicted person must be within the place to be quarantined. One may be a member of a household or a family and be temporarily away from the family dwelling place. If a member of a family was stricken with a contagious disease while away from home, that circumstance would not deprive him of the character of a member of the family, but it would be a sufficient reason for not placing a quarantine against the dwelling house where such person resided.

"The first count of the information is defective, and the court erred in refusing to quash it.

"The second count of the information charges that the plaintiff in error 'did unlawfully, willfully, and maliciously violate and refuse to obey the rules and regulations of said board of health by sending or permitting his minor daughter, Eva Tait, to attend the public school in district No. 45, in Edwards County, while she was then and there afflicted with scarlet fever and while under the aforesaid quarantine,' etc. This count is open to the objection that there is no averment that any rule had been officially and duly established by the board of health of Edwards County. The same objection exists as to the third count, which charges the violation of the rules and regulations of said board against plaintiff in error 'by leaving his residence while a member of his family was afflicted with a dangerously communicable disease, to wit, scarlet fever, and mingling with other people, and returning to his aforesaid residence,' etc.

"All of the counts of the information are open to the objection already pointed out as to the first count that there is no positive averment that a valid rule had been adopted, declaring a quarantine which would include the residence of plaintiff in error. In the view that we take of this proceeding, it is necessary, in order to sustain a conviction, that there should be a reasonable and valid rule entered of record by the board of health and that the indictment or information which is based upon a violation of such a rule should aver that such rule was duly entered, and set out at least enough of said rule to show that the act charged constituted a violation thereof.

"Even in civil actions based upon the violation of a municipal ordinance, it is regarded as the better practice to set out a full statement as to the ordinance, so that all questions as to its sufficiency may be raised by a demurrer. (*Missouri City v. Hutchinson*, 71 Mo., 46; *White v. Neptune City*, 56 N. J. Law, 222, 28 Atl., 378; *Fink v. Milwaukee*, 17 Wis., 26.) By all rules of pleading enough must be shown to establish the liability of the person charged, and this must distinctly appear from the pleading. (15 Ency. of Pl. & Pr., 424.) This rule results from the private character of such ordinances, of which no court other than those of the municipality can take judicial notice."



# STATE LAWS AND REGULATIONS PERTAINING TO PUBLIC HEALTH.

## DISTRICT OF COLUMBIA.

### **Vaccination—Policemen and Firemen to be Protected against Smallpox and Typhoid Fever. (Reg. of Commissioners, Mar. 30, 1914.)**

Hereafter every policeman and fireman upon entering the service of the Government of the District of Columbia shall be vaccinated a sufficient number of times to establish complete immunity to vaccinia and therefore to smallpox, and all policemen and firemen now in the District service, who have not been vaccinated, be vaccinated in like manner, unless they are in such feeble health as to render that procedure impracticable, the state of their health to be determined by the Board of Police and Fire Surgeons; that every policeman and fireman hereafter shall be vaccinated whenever the Commissioners of the District of Columbia so order, unless he can show to the satisfaction of the Board of Police and Fire Surgeons that his health is too feeble to permit him to be subjected to the operation; that all appointees in the service of the Police and Fire Departments shall, before entering upon their duty as such, be inoculated in such manner as to protect them against typhoid fever, and that the Manuals of the Police and Fire Departments be modified in accordance with this order.

## MAINE.

### **Common Drinking Cups and Common Towels—Prohibited in Certain Places. (Reg. Bd. of H., Mar. 25, 1914.)**

Under authority conferred by section 8, chapter 18, of the Revised Statutes, as amended by section 2 of chapter 48 of the Laws of 1909, and as further amended by chapter 149<sup>1</sup> of the Laws of 1913, the following rules and regulations are hereby made by the State board of health, to be in effect on and after June 1, 1914:

**SECTION 1.** The use of a common drinking cup or a common towel on any railroad train or other common carrier or in the stations, waiting rooms or lavatories connected therewith, or belonging thereto, or in any public, parochial, or private school, or in any State educational institution, or in any hotel or restaurant, or in any theater or other public place of amusement, is prohibited.

**SEC. 2.** No person, firm, corporation, board, or trustee in control of or in charge of any common carrier or building, room, institution, or place mentioned in section 1 shall place, furnish, or keep in place, any drinking cup or towel for public or common use, and no such person, firm, corporation, board, or trustee, shall permit the use of a common drinking cup or a common towel on or in any common carrier, or building room, institution, or place mentioned in section 1.

**SEC. 3.** The term common drinking cup as used herein is defined to be any vessel or utensil used for conveying water to the mouth, and available for common use by the public or the passengers, or guests, or inmates of the places mentioned in section 1. The term common towel as used herein shall be construed to mean roller towel or a towel intended or available for common use by more than one person without being laundered after such use.

<sup>1</sup> Public Health Reports, Apr. 3, 1914, p. 854.

**MASSACHUSETTS.****Regulations of Town Boards of Health—Publication. (Chap. 90, Act Feb. 25, 1914.)**

Section 14 of chapter 75 of the Revised Laws is hereby amended by striking out the words "if there is no such newspaper," in the second and third lines, so as to read as follows:

SEC. 14. The board of health of a town shall publish all regulations made by it in a newspaper of its town, or shall post them up in a public place in the town. Such publication or posting shall be notice to all persons.

**OHIO.****Common Drinking Cups and Common Towels—Prohibited in Certain Places. (Reg. Bd. of H., Mar. 19, 1914.)**

RULE 1. That common carriers shall not provide in cars, vehicles, vessels, or conveyances operated in traffic within the State, or in depots, waiting rooms or other places used by passengers traveling to various parts of the State, any drinking cup, glass, or vessel for common use; and that no school, church, hospital, workshop, factory, hotel, saloon, restaurant, store, telephone exchange, telegraph office, or any office building, or public building in the State shall provide any drinking cup, glass, or vessel for common use: *Provided*, That this regulation shall not be held to preclude the use of drinking cups, glasses, or vessels which have been thoroughly cleansed by washing in boiling water after use by each individual, nor shall it be held to preclude the use of sanitary devices for individual use only.

RULE 2. That common carriers shall not provide in any car, vehicle, vessel, or conveyance operated in traffic within the State, or in depots, waiting rooms, or other places used by passengers traveling to various parts of the State, any towel for use by more than one person; and that schools, churches, hospitals, workshops, factories, hotels, saloons, restaurants, stores, telephone exchanges, telegraph offices, or any office buildings or public buildings in the State shall not provide any towel for use by more than one person: *Provided*, That this regulation shall not be held to preclude the use of towels that have been sterilized in boiling water after use by each individual, nor shall it be held to preclude the use of sanitary towels for individual use only.

## **MUNICIPAL ORDINANCES, RULES, AND REGULATIONS PERTAINING TO PUBLIC HEALTH.**

### **KANSAS CITY, KANS.**

#### **Morbidity Reports—Quarantine—Disinfection. (Ord. 11788, Oct. 28, 1913.)**

**SECTION 1.** Every physician attending any patient suffering with any of the following diseases shall within 24 hours after he discovers the existence of such disease report in writing the full name, age, and address of such person together with the disease with which such person is suffering: (a) Contagious (very readily communicable): Measles, rubella (rotheln), scarlet fever, smallpox, varicella (chicken pox), typhus fever, relapsing fever. (b) Communicable: Diphtheria (croup), typhoid fever, Asiatic cholera, tuberculosis (of any organ), plague, tetanus, anthrax, glanders, epidemic cerebro-spinal meningitis, leprosy, infectious diseases of the eye (trachoma, suppurative conjunctivitis), puerperal septicemia, erysipelas, whooping cough, infantile paralysis, yellow fever.

**SEC. 2.** In the case of death of any person from or while suffering any of the diseases hereinbefore set out the attending physician shall report forthwith in writing to the department of health such death, together with the disease.

**SEC. 3.** The keeper of any boarding house, lodging house, or the proprietor of any hotel in which any person is living who is suffering with any of the diseases referred to in section 1 hereof shall immediately upon his discovering such fact report in writing to the department of health all facts and information in regard thereto.

**SEC. 4.** The head of any family in which exists any of the diseases specified in section 1 hereof shall immediately upon his discovering the fact report to the department of health in writing all facts in regard to such disease.

**SEC. 5.** It shall be unlawful for any person to interfere with or obstruct any officer or inspector of the department of health in entering, inspecting, or examining any building or house or the occupants thereof in which building or house there is any person suffering with any of the diseases specified in section 1 hereof.

**SEC. 6.** It shall be unlawful for any person to obstruct, mutilate, or tear down any notice of the department of health posted in or upon any building or premises.

**SEC. 7.** The manager, superintendent, or other principal officer of any hospital, dispensary, or sanitarium shall within seven days after discovering such fact report in writing to the department of health the name, age, sex, occupation, and last-known address of every person in such institution who is suffering with tuberculosis.

**SEC. 8.** In any case where the commissioner of health finds upon investigation that any person who is sick with any contagious disease is liable, by reason of the conditions surrounding such person, to communicate such disease to other persons the commissioner of health may order such person removed to any hospital designated by him.

**SEC. 9.** It shall be the duty of every undertaker having charge of the funeral of any person who has died of smallpox, diphtheria (croup), scarlet fever, yellow fever, typhus fever, plague, Asiatic cholera, measles, or any other infectious disease dangerous to the general health of the community to give immediate notice of such death to

the department of health. No person shall retain or expose the body of any such person except in the coffin or casket properly and sufficiently sealed, nor shall such body be placed in any such casket or coffin without first being wrapped in a sheet, saturated with an approved disinfecting solution, after which such coffin or casket shall be immediately sealed. No undertaker shall use or cause or allow to be used at any funeral of any person dying of any of the diseases referred to in section 1 hereof any draperies, decorations, rugs, or carpets belonging to or furnished by him or under his direction.

Sec. 10. No public or church funeral shall be held of any person who has died of smallpox, diphtheria (croup), scarlet fever, yellow fever, typhus fever, Asiatic cholera, epidemic cerebrospinal meningitis, infantile paralysis, measles, or plague. It shall not be lawful to invite or permit at the funeral of any person who has died of any one of the above diseases, or of any infectious disease, or at any service connected therewith, any person whose attendance is not necessary or to whom there is danger of contagion thereby.

Sec. 11. It shall be unlawful for any person without a permit from the department of health to carry or remove or cause or permit to be carried or removed any person sick with any of the diseases referred to in section 1 hereof from any place within this city to any other place within this city or from any place without this city to any place within this city.

Sec. 12. It shall be unlawful for any person to expose any individual sick of any of the diseases referred to in section 1 hereof, or by any negligent act connected with the care of such person contribute to or promote the spread of disease from any such person.

Sec. 13. Every owner, lessee, tenant, and occupant of any dwelling or apartment in the city of Kansas City, Kans., shall forthwith report to the department of health the removal of any person from such dwelling or apartment who shall be suffering from any of the diseases referred to in section 1 hereof.

Sec. 14. It shall be unlawful for any principal or superintendent of any school to permit any person having scarlet fever, diphtheria (croup), smallpox, or any other contagious or dangerous disease to attend any such school until such principal or superintendent shall receive a certificate in writing from the department of health to the effect that such attendance will not endanger the health of any other person in such school.

Sec. 15. It shall be the duty of the department of health to adequately disinfect the premises and belongings of any person who has suffered from any of the diseases referred to in section 1 hereof immediately following the death, recovery, or removal of any such person.

Sec. 16. It shall be unlawful for any child to attend school or to mingle with other children after such child has had any of the following diseases until the following tests have been satisfactorily made.

1. *Diphtheria*.—Two successive daily negative cultures from the nose and throat. Cultures to be delivered at the city laboratory to be taken by attending physician or at the office of the city bacteriologist.

2. *Scarlet fever*.—Absence from school for a minimum of 38 days.

3. *Poliomyelitis*.—Absence from school for all children for a minimum of three weeks.

4. *Meningitis (epidemic cerebrospinal meningitis)*.—All cases of meningitis where spinal puncture is made one-half the fluid shall be immediately delivered to the city bacteriologist. Where no puncture is made the disease shall be considered as of the epidemic form. Children may return to school after release from quarantine and a negative culture from the nose and throat. Culture to be made by attending physician and delivered to city bacteriologist or at the office of the city bacteriologist.

5. *Smallpox*.—Children who have evidence of successful vaccination may return immediately after release from quarantine. Those not vaccinated after two weeks from release.

6. *Measles and chicken pox*.—Children may return to school when entirely recovered and released from quarantine. No fumigation.

7. *Whooping cough*.—All children in the family to be quarantined until free from paroxysmal cough.

SEC. 17. Any person violating any of the provisions of this ordinance shall be punished by a fine of not less than \$10.

### KANSAS CITY, MO.

"Museums of Anatomy," "Medical Institutes," etc.—License and Regulation.  
(Ord. June 6, 1913.)

SECTION 1. No person, copartnership, association, or corporation shall carry on, operate, or conduct any museum of anatomy, medical or surgical institute or company, or other place of like character where diseases of the human body are depicted, illustrated, portrayed, or exhibited by means of pictures, plaster casts, mechanical devices, or by any other means or in any manner whatsoever, or treatment by use of drugs, mechanical devices, or surgery of any such disease given, or applied, or remedies therefor prescribed, without first furnishing to the hospital and health board, in writing, on blanks to be provided by said board for that purpose, the names and addresses of the manager, officers, and owners, and purpose for which such place is to be conducted, and obtaining a permit from said board to locate and operate such museum or place. Such permit shall be granted by said board when the applicant therefor furnishes to said board satisfactory evidence that the applicant, if a person, or the president or chief officer, if a corporation, has a certificate from the State board of health permitting such person to practice medicine or to engage in the practice of osteopathy, or in the practice of dentistry, according to the purposes for which said place is to be operated; and also that such person is of good character and in good standing in the school of medicine to which he belongs as an osteopath or as a dentist, as the case may be; but the fact that such person advertises his business or guarantees a cure shall not be considered sufficient reason to refuse a permit.

It shall be unlawful for any person, copartnership, association, or corporation to operate any such museum or other place without such permit from the hospital and health board: *Provided, however*, Nothing in this ordinance contained shall be construed to apply to a medical college or school where no treatment is given to the sick or afflicted, or to masseurs who give treatment by rubbing or kneading of the body, or by use of mechanical appliances for physical exercise or manipulation of the body as a hygienic or remedial measure, and not otherwise.

SEC. 2. Any person, copartnership, association, or corporation pretending, representing, or advertising by any means or through any medium, or in any manner whatsoever, to be engaged in the business of contracting for the practice of medicine, or for the treatment of the sick or others afflicted with bodily or mental infirmities, shall at all times display the correct and true name of each person giving any such treatment in a prominent place at the entrance to and where it will be visible from the outside of the office or place of business of any person, copartnership, association, or corporation so advertising.

SEC. 3. All such museums and places shall be open to inspection by the health commissioner and his deputies, and if such museum or place be not maintained in sanitary condition or the applicant or president or other chief officer of such corporation be found to be of bad or immoral character, or has no certificate entitling him to practice medicine, osteopathy, or dentistry in this State, or if the person or persons managing any such place be found to be of bad or immoral character, the hospital and

health board, after written notice to such applicant or person, and giving full opportunity to be heard on any such charge, may revoke such permit.

SEC. 4. Every person, copartnership, association, or corporation carrying on, operating, or conducting any museum of anatomy, medical, or surgical institute or company, or other similar institution described in section 1 of this ordinance shall procure a license from the city, and the fee for each such license shall be \$100 per annum. No license shall be issued for a less period than six months or for more than one year, provided the license may be issued for one, two, three, four, or five months, and any six-month period thereafter, and the annual charge or fee for the same shall be prorated according to the time for which the license is issued in accordance with section 203, Revised Ordinances of Kansas City, Mo., of 1909.

The city license inspector shall not issue a license for any such museum or other place described in section 1 or in section 2 of this ordinance unless the applicant presents to him a permit issued by the hospital and health board to operate and conduct a place of the character described in section 1 or in section 2. Upon the presentation of such permit to the city license inspector the license inspector shall issue a license to the applicant to locate and operate such place at the place named in said permit, provided the license fee, if any, prescribed by ordinance in such cases shall first have been paid. Any license issued in violation of this ordinance shall be void.

SEC. 5. Any person, copartnership, association, or corporation violating any of the provisions of this ordinance shall be guilty of a misdemeanor, and on conviction shall be fined in a sum not less than \$25 or more than \$500 for each offense. Every day that such museum or place shall be operated in violation of the provisions of this ordinance shall constitute a separate offense.

#### **Mineral Water—Misrepresentation of Source Prohibited. (Ord. May 27, 1913.)**

SECTION 1. It shall be unlawful for any person, copartnership, or corporation selling mineral water or offering it for sale in Kansas City, Mo., to represent that such water was taken from any particular spring which was not in fact taken from such spring or to represent that it was taken from any particular source when it was not in fact taken from such source, or to represent that it was taken from any particular locality when in fact it was not taken from such locality.

SEC. 2. Any person, copartnership, or corporation violating any of the provisions of this ordinance shall, upon conviction, be fined not less than \$1 nor more than \$500 for each offense.

#### **Chiropody—License—Regulation by Board of Health. (Ord. May 10, 1913.)**

SECTION 1. No person shall pursue the occupation or engage in the business of chiropody within the corporate limits of Kansas City, Mo., until such person shall have obtained a license therefor in accordance with the provisions of this ordinance. Such license shall be displayed in the place of business of the person to whom issued.

SEC. 2. No such license shall be issued until the person applying therefor shall have paid into the city treasury a license fee of \$10 per annum, and shall have filed in the office of the license inspector a permit issued by the hospital and health board to the applicant to engage in such business.

SEC. 3. The hospital and health board shall not issue to any person any such permit until the applicant therefor shall have filed with the secretary of said board a certificate of the health commissioner showing that he has examined the applicant and find him or her to be skilled and proficient in the use of antiseptics, and also in regard to sterilization of instruments used in the practice of chiropody and of wounds on the human body.

SEC. 4. The hospital and health board is authorized and empowered to prescribe reasonable rules regulating the time, place, and manner of such examination and to require examination upon subjects other than those above specified.

SEC. 5. No licenses issued under this ordinance shall be issued for less than a period of six months or for more than one year; provided, that licenses may be issued for one, two, three, four, or five months and any six months' period thereafter, and the annual charge for such fee shall be prorated according to the time for which the license is issued.

SEC. 6. The license inspector shall promptly make to the hospital and health board a report giving the date of each license issued pursuant to this ordinance and name of the person to whom issued.

SEC. 7. Any person violating any provision of this ordinance shall be guilty of a misdemeanor and, upon conviction, be fined in a sum not less than \$10 nor more than \$500 for each offense.

**Physicians, Surgeons, Dentists, Osteopaths, Midwives; Registration of—Burial; Certificate of Death Required. (Ord. May 27, 1913.)**

SECTION 1. Every person now practicing medicine or surgery, osteopathy, dentistry or dental surgery in this city, or who shall hereafter engage in any such practice, shall, before continuing or entering upon such practice, exhibit the certificate obtained, if he be engaged in the practice of medicine or surgery, from the State board of health, in the practice of osteopathy, from the State board of osteopathic registration and examination, and in the practice of dentistry or dental surgery, from the State board of dental examiners for the State of Missouri under the provisions of the laws of Missouri, to the health commissioner, and file a copy of such certificate with said health commissioners, who shall thereupon enter the name of such person, the date of filing of said copy, the date of such certificate, the name and location of the institution at which the person was graduated, if such person be a graduate, in a book to be kept by the health commissioner for that purpose, and shall require such person to subscribe his or her name in such book.

SEC. 2. Whenever the health commissioner has reason to believe that the certificate exhibited is not genuine, or has not been legally issued to the person presenting the same, he shall refuse to allow the person presenting the certificate to be registered, and shall forthwith refer the matter, with the facts in the case, to the hospital and health board, which, after a hearing, shall decide whether said person shall be allowed to register; and if the board of health shall so decide it shall direct the health commissioner to allow said person to register, but if, in the opinion of said board, such person should not be allowed to register, the health commissioner shall not permit said person to register.

SEC. 3. Every person who shall practice, or attempt to practice, medicine or surgery, osteopathy, dentistry or dental surgery in this city without first having complied with the provisions of this ordinance shall be deemed guilty of a misdemeanor, and upon conviction shall be fined not less than \$25 nor more than \$500 for each offense.

SEC. 4. It shall not be lawful for the health commissioner or his clerk to sign any burial certificate which does not conform to the requirements of the statutes of this State.

SEC. 5. If any overseer, sexton, or other person having control of a graveyard shall permit any person to be interred in said graveyard without a certificate signed by a registered physician and countersigned by the health commissioner or his clerk, he shall be deemed guilty of a misdemeanor, and upon conviction shall be fined not less than \$25 nor more than \$500, to be enforced as in other cases of misdemeanor before any court or officer having jurisdiction.

SEC. 6. Nothing in this ordinance shall be so construed as to permit any druggist to engage in the practice of medicine or surgery without first having filed with the health

commissioner a diploma, or certified copy thereof, in accordance with the provisions of the first two sections of this ordinance.

SEC. 7. Hereafter it shall not be lawful for any person to practice midwifery unless such person shall first register her name and place of abode in a book in the office of the health commissioner kept for that purpose, but no person shall be allowed to register as midwife who shall not first file a diploma from some school of midwifery, in good standing, or a certificate signed by at least two registered physicians, which certificate shall state that the party named in the certificate is in their opinion qualified to practice midwifery, and any person who shall practice or attempt to practice midwifery without first having complied with the provisions of this ordinance shall be deemed guilty of a misdemeanor, and upon conviction shall be fined not less than \$25 nor more than \$50.

### KEARNY, N. J.

#### Milk and Cream—Production, Care, and Sale. (Ord. Oct. 2, 1913.)

SECTION 1. No milk shall hereafter be produced, sold, or exposed for sale or delivered in the town of Kearny unless it is produced and handled in accordance with the requirements of this article.

SEC. 2. No person shall hereafter engage in the sale or exposure for sale of milk in the town of Kearny without first having filed with the board of health a true and complete statement of the locality from which all the milk they handle is produced, a complete list of the persons from whom the said milk is purchased, and a complete list of the localities from which ice for cooling purposes is obtained; and if at any time the place at which said milk is produced or the persons from whom the said milk is purchased, or the locality from which the said ice is obtained be changed, the said board shall be notified immediately and at any other time within three days of a receipt of a request therefor, any person engaged in the sale of milk in the town of Kearny shall furnish said board with a complete list of all persons to whom milk is regularly sold.

SEC. 3. All premises whereon milk is produced or handled for sale or distribution in the town of Kearny shall be open to this board for inspection at any time, and owners of cows from which said milk is produced shall permit a veterinarian in the employ of this board to examine said cows at any time.

SEC. 4. *Stables.*—Cows shall be stabled under light, dry, and well-ventilated conditions, and the stables shall conform in all conditions and respects to the requirements hereinafter set forth, viz:

(a) Any portion of a barn used as a cow stable shall be tightly ceiled overhead, shall be entirely partitioned off from the rest of the barn, and shall not be used for the storage of farm utensils nor for any other purpose.

(b) The walls and ceilings of said stables not otherwise treated in a manner approved by this board shall be whitewashed at least once in every six months.

(c) Stables shall have at least 2 square feet of unobstructed window glass per 500 cubic feet of air space, the windows to be arranged so as to light all portions of the stable effectively.

(d) Each cow shall have at least 3 feet in width of floor space when fastened in stanchions, and in all cases where no adequate artificial means of ventilation is provided each animal shall have at least 600 cubic feet of air space.

(e) All stables shall be provided with a tight dry floor, and the manure drops or urine gutters shall be water-tight and shall be thoroughly cleaned at least twice a day.

(f) No manure, garbage, nor other putrescible matter shall be allowed within 100 feet of any cow stable, milk house, or cooling room; and the drainage from said buildings shall be such that no liquid wastes can collect within this distance.



**SEC. 5. Cows and feed.**—(a) No milk shall be sold or offered for sale or distributed in the town of Kearny except from cows in good health nor unless the cows from which it is obtained have within one year been examined by a veterinarian whose competency is vouched for by the State veterinarian association of the State in which the herd is located and a certificate signed by such veterinarian has been filed with the board of health stating the number of cows in each herd that are free from disease. This examination shall include the tuberculin test, and charts showing the reaction of each individual cow shall be filed with this board. All cows which react shall be removed from the premises if the sale of milk is to continue, and no cows shall be added to a herd until a certificate of satisfactory tuberculin tests of said cows have been filed with this board.

(b) Cows shall at all times be kept in a clean condition, and the udders shall be washed or wiped with a clean, damp cloth immediately before milking.

(c) No milk shall be obtained from any cow which has calved within 10 days or from any cow within 30 days before the normal time of calving.

(d) All milk be obtained from cows fed and watered under the following conditions: All food given to such cows shall be sweet and wholesome, the use of either distillery slops or fermented brewery grains is prohibited, and their presence on any dairy premises will be considered sufficient cause for exclusion of the milk from such dairies from sale or delivery in said town. Water supplied to cows shall be pure and free from all contamination from stable or household wastes, and no spring or shallow well in or adjoining any stable yard shall be used for watering said cows.

**SEC. 6. Employees and utensils.**—(a) All milkers and all other attendants handling milk in any dairy shall be personally clean. When entering upon their duties connected with the dairy their hands and outer garments must be clean.

(b) Utensils used for the collection and transportation of milk shall, before being used, be thoroughly washed with pure water and soda or soap, or by some other approved means, and then sterilized by steam.

(c) As soon as milk is drawn from a cow and before straining it must be removed from the stable to a separate room where it shall be strained immediately. It shall then, within 45 minutes of the time of milking, and in a building separate from said stable, be cooled to 50° F. or below by some method approved by this board. The above-mentioned cooling room shall be properly ventilated and lighted and shall be used for no other purpose than indicated above, shall at all times be kept in a clean condition, and shall not be connected with any stable, barn, or dwelling.

(d) All milk shall be delivered in bottles, but no milk in partially filled bottles shall be sold or offered for sale. No tickets shall be used in connection with the sale or delivery of milk. No bottles shall be capped or recapped outside the dairy, creamery, or other buildings regularly used for this purpose, and said bottling room shall at all times be kept in a clean and sanitary condition. Milk bottles shall be used for no other purpose than as receptacles for milk.

(e) If at any time any person or persons having any connection with a dairy or with the handling of milk, or any resident member of the family of any person so connected shall be stricken with cholera, smallpox, diphtheria, membranous croup, typhus, typhoid or scarlet fever, measles, tuberculosis, syphilis, or any other communicable disease that may be hereafter declared by this board to be dangerous to the public health, notice shall be given to said board immediately by the owner or owners of such dairies, and said board may order the sale of such milk discontinued for such time as it deems necessary. No milk produced from the dairy of any person failing to give notice shall hereafter be sold or exposed for sale or delivered in the town of Kearny until special permission therefor has been granted by this board.

**SEC. 7. Milk.**—(a) Samples of milk shall be furnished this board by any producer or dealer at any time upon proper payment therefor.

(b1) Milk supplies found to contain over 100,000 bacteria per cubic centimeter on two or more different days will be excluded from Kearny until satisfactory evidence is shown that the milk may be reasonably expected to contain less than this number of bacteria.

(b2) Milk shall contain not less than 3.25 per cent milk fats.

(b3) Milk shall contain not less than 8.5 per cent of solids not fat.

(c) No pasteurized milk shall be sold in the town of Kearny unless it is conspicuously labeled "Pasteurized." Said label shall also state the degree, 150° F., temperature and date of pasteurization.

(d) No substance or compound shall be added to any milk which is to be exposed or offered for sale, and no substance shall be extracted therefrom.

(e) No milk shall be sold in Kearny which is obtained from a dealer who handles in part a supply not approved by this board, and no person shall deliver or offer for sale in the town of Kearny any milk unless the entire supply which he handles complies with the requirements hereinbefore set forth unless satisfactory evidence is given this board that the two supplies are kept separate.

(f) No milk shall be delivered stored or transported at a temperature exceeding 50° F.

(g) No ice which is obtained from a source which is contaminated or which is so situated that it may become contaminated shall be used for cooling milk.

SEC. 8. *Cream*.—No cream shall be sold, exposed for sale, or delivered within the town of Kearny unless it is produced and handled in accordance with the requirements hereinbefore set forth for the production and handling of milk. The board of health may from time to time, when in its opinion the public interest may require, permit by resolution the sale of milk as herein specified, provided that such milk is pasteurized by subjecting it to a temperature of 150° F. for 20 minutes or by equivalent process.

SEC. 9. *Penalty*.—Any person violating any of the provisions of this article shall, on conviction thereof, forfeit and pay a penalty of \$25 for each offense.

#### **Garbage and Refuse—Permit Required for Dumping. (Ord. Aug. 7, 1913.)**

All persons, parties, firms, or corporations dumping earth, ashes, garbage, or other materials in the town of Kearny must first obtain a permit from the board of health.

All persons, parties, firms, or corporations violating any part of this ordinance shall forfeit and pay a penalty of \$25 for each offense.

#### **Slaughterhouses—Regulation of. (Ord. Aug. 7, 1913.)**

SECTION 1. In every slaughterhouse or rendering plant hereafter constructed in the town of Kearny, the floors shall be paved with asphalt or some other impervious material, properly sloped to a well-trapped and permanently grated inlet having connection with a sewer; the walls thereof shall be covered to a height of 7 feet with some smooth impervious material; the yards, apartments, and pens connected therewith shall be paved with brick or stone laid in cement or concrete or some other impervious material and properly sloped to a well-trapped and permanently grated inlet having a connection with a sewer. Every slaughterhouse or rendering plant shall be supplied with an adequate water supply and such arrangement of hose or pipes as will enable the walls, floors, and yards to be effectually washed; and every slaughterhouse or rendering plant and the apartments and pens connected therewith shall be properly ventilated according to the direction and to the satisfaction of the board of health.

Any person or persons, firm or corporation who shall be the owner of or operate any slaughterhouse or rendering plant failing to comply with the directions of or offending against or violating any of the provisions of this section shall, on conviction thereof,

forfeit and pay a penalty of \$50 for the first offense, and for the second and each subsequent offense the sum of \$100.

SEC. 2. The owners, agents, lessees, or occupants of all slaughterhouses or rendering plants located within the town of Kearny are required to provide movable receptacles, with tightly fitting covers, for the purpose of conveying away blood, filth, offal, and other offensive matters, and these matters must be deposited in the receptacles immediately after slaughtering and removed with all fat, hides, skins, tripe, and bones daily between the hours of 6 p. m. and 8 a. m. No blood or offal shall be permitted to run into the sewer.

Any person or persons, firm or corporation offending against or violating any of the provisions of this section shall, on conviction thereof, forfeit and pay a penalty of \$50.

SEC. 3. The owners, agents, tenants, or occupants of all slaughterhouses or rendering plants in use shall thoroughly and effectually wash the walls, floors, and yards thereof at least once in every 24 hours, and during the months of May, June, July, August, and September shall distribute twice in each week a sufficient quantity of chloride of lime or some other suitable disinfectant about their premises, and shall also remove the contents of any manure pit on the premises once in each week during the said months. If the above requirements should not be complied with, the health officer is hereby directed to carry out the provisions of this section as to disinfecting and the removal of the contents of said manure pits at the expense of said owner, agent, lessee, tenant, or occupant.

Any person or persons, firm or corporation failing to comply with or offending against any of the provisions of this section shall, on conviction thereof, forfeit and pay a penalty of \$25.

SEC. 4. No blood pit, dung pit, or privy well shall remain or be constructed within any slaughterhouse or rendering plant.

Any person or persons, firm or corporation offending against or violating any of the provisions of this section shall, on conviction thereof, forfeit and pay a penalty of \$25.

If it shall at any time appear to the board of health that exception to any of the provisions of sections 1, 2, 3, and 4 of this ordinance should be made, a permit in writing to that effect may be granted, subject to revocation at the pleasure of the board of health.

#### **Garbage and Refuse—Care and Disposal of. (Ord. Oct. 2, 1913.)**

SECTION 1. No person, firm, or corporation shall remove, or carry, by cart or otherwise, any earth, dust, manure, grease, offal, rubbish, or waste matter whatsoever in the town of Kearny, unless the same is inclosed so as to be impervious to flies and to prevent its distribution by wind or otherwise.

SEC. 2. Any person, firm, or corporation desiring a permit to remove, transport, or carry earth, dust, ashes, manure, grease, offal, rubbish, or waste matter in the town of Kearny shall file with the secretary of the board of health of said town a written agreement to comply with all the ordinances of the said town and the rules and regulations of the said board of health relating to the removal and depositories of the said ashes, earth, dust, manure, grease, offal, rubbish, or waste matter.

SEC. 3. That all such earth, dust, ashes, manure, grease, offal, rubbish, or waste matter shall be deposited in any of the following places as designated in the permit granted and in no other place, and all of said matter when so deposited shall be leveled off, so as to prevent the same from becoming a nuisance or menace to the public health.

SEC. 4. The following places shall be used as dumps: \* \* \*

SEC. 5. All parties, firms, or corporations violating any part of this ordinance shall forfeit and pay a penalty of \$25 for each offense.

## KNOXVILLE, TENN.

**Water—Sale of in Containers—Permit Required. (Ord. Aug. 1, 1913.)**

SECTION 1. No water from any spring, well, or other source of supply, whether intended for domestic use, drinking purposes, the manufacturing of beverages, ices, and similar articles, or by reason of the natural chemical constituents thereof or of added drugs to be used for medicinal purposes, shall be brought into the city of Knoxville, Tenn., from any other place or locality outside the corporate limits thereof and within the State of Tennessee for the purpose of selling or delivering or offering the same for sale or delivery to the public in barrels, casks, bottles, jugs, buckets, or similar containers, except there shall have been first issued by the department of health of said city a written permit authorizing the introduction and sale of such water.

SEC. 2. It shall be the duty of the director of the department of health to cause such waters to be analyzed, tested, and examined to determine their sanitary purity and freedom from polluting contents prior to issuing a permit for their delivery or sale in said city, and the said director may at any time, either in person or through any duly authorized officer or inspector of the department of health of said city, remove or secure samples of such waters in order to have the same analyzed, tested, or examined to determine their continued purity, and he may cancel any permit issued for the purpose aforesaid should such future analysis, test, or examination establish the impurity or unfitness of such waters for use and consumption within said city.

SEC. 3. No water from any well, spring, or other source shall be offered for sale within said city for domestic use or drinking purposes, or for medicinal purposes, where such waters by reason of their natural chemical constituents or added drugs are designated, classed, or called mineral waters or medicinal waters, at either wholesale or retail, where the same are exposed and offered for sale in barrels, casks, jugs, bottles, buckets, or similar containers, unless the person selling or offering the same for sale shall first obtain from the department of health of said city a written permit, as hereinbefore provided for, and this permit shall not be issued by the director of the department of health until he shall have analyzed, tested, and examined, or caused to have been analyzed, tested, and examined, a sufficient quantity of such waters to determine their sanitary purity and freedom from polluting contents, and after the issuance of such permit the said director may at any time, either in person or through the duly authorized officers and inspectors of the department of health, remove or secure samples of such waters in order to determine their continued purity, and may cancel any permit theretofore issued should such analysis, test, or examination establish the impurity or unfitness of such waters for use.

SEC. 4. All barrels, casks, bottles, vessels, and containers used in the storing, delivery, and sale of such waters, together with all apparatus used in filling same, shall at all times be kept in a clean and sanitary condition and during transportation and delivery to customers all such vessels and containers shall be protected from all dust, dirt, and filth. Should any case of contagious disease occur upon the premises where such water is obtained and prepared for delivery or sale, or among any individuals concerned in its preparation, handling, or delivery, the same shall be immediately reported to the director of the department of health, who, if he deem it necessary in order to protect the health of the inhabitants of the city of Knoxville, he may thereupon cancel the said permit or suspend the same until all danger of infection or contagion shall have ceased.

SEC. 5. All permits issued by the department of health shall remain in force for one year from the date of issuance, unless cancelled by the department of health as hereinbefore provided; and for each permit thus issued, the party applying for the same shall pay to the director of said department the sum of \$5 to be by him reported

monthly as other collections of this department and paid over to the commissioner of accounts and finance of said city as other revenues and collections by the said department of health.

SEC. 6. Any person, firm, or corporation, handling waters hereinbefore designated, shall upon obtaining said permit, post the same in a conspicuous place in the store, shop, stand, or place of business where such waters are sold or distributed; if such waters are delivered or distributed from a wagon or other vehicle, the driver or other person in charge thereof shall at all times have said permit in his possession for inspection by any official of the city who may demand its production therefor. It shall be the duty of any person holding such permit, or any of his agents, servants, or employees in charge of such business, to produce such permit for inspection upon the demand of any of the officers or employees of the department of health of said city, or of the chief of police, any member of the police department, or of any of the commissioners of said city.

SEC. 7. Any person, firm, or corporation, violating any of the provisions of the foregoing sections of this ordinance shall, upon conviction before the recorder of said city, be fined not less than \$10 nor more than \$50, and each day's failure to comply with the provisions of this ordinance shall constitute a distinct offense.

### LAKE CHARLES, LA.

#### Meat and Meat Products—Care and Sale—Slaughterhouses. (Ord. June 12, 1913.)

SECTION 1. It shall be unlawful for any person, firm, or corporation to sell, offer or expose for sale, or to deliver after sale, any meat in the city of Lake Charles, unless the same has been inspected before and after slaughtering, and approved by the meat inspector, except meats bearing the inspection stamp of the United States Department of Agriculture, which latter, however, shall be subject to the inspection provided in sections 4 and 5 hereof, and the charges provided in section 13.

SEC. 2. It shall be unlawful to slaughter animals intended for food in the city of Lake Charles, except in a building constructed of wood, brick, rock, concrete, or solid materials, the dimensions of which shall be not less than 12 feet square inside measure; 12 feet in height from floor to ceiling; disconnected from any storeroom for hides by at least 50 feet, and not less than 125 feet from any house, residence water-closet, hogpen, or anything that might pollute the ground or atmosphere.

Floors of all slaughter pens shall be sound and water-tight and drained. Preparations must be made to carry all blood, offal, refuse, or any other material derived directly or indirectly from slaughtering animals, by wagon, wheelbarrow, or otherwise, in water-tight containers, to a place where said refuse may be burned or deposited at some place designated by the board of health, not less than 125 feet from the slaughter pen guarding against creating nuisance for the public.

The walls of slaughter pens, meat dressing and cooling rooms must be tight and smooth, at least 6 feet above the floor, with the exception of openings for doors, nor exceeding three, and windows, if desired, which must be provided with glass or shutters, and all openings screened with 18-mesh wire. All screen doors must open outside, and all other doors must be provided with a swinging door to open in or out. Hot and cold water must be provided in abundance and convenient to the building. If surface water is used, the well must be convenient to the slaughterhouse, and not less than 125 feet from any source that might contaminate or pollute the water. Running water shall be provided for all slaughterhouses. Ample supply of water must be in the room, with soap and individual towels, for cleansing the hands of all operators, as well as instruments, and any emergencies that might arise. All woodwork except the floor must be kept white by the application of paint, enamel, or calimine. The floors and all instruments, hooks, etc., that touch the meat must be cleaned daily with hot water and soap or lye.

SEC. 3. The board shall appoint one or more veterinary surgeons, inspectors of cattle, whose duty it shall be to inspect all animals intended for food before and after being killed; to inspect slaughterhouses, markets, and packinghouse plants, and their products, in this city, and to enforce the provisions of this ordinance. He or they shall have the power to order the destruction and proper disposal of any diseased or unhealthy meat unfit for food, or the meat of any person, firm, or corporation violating these provisions.

SEC. 4. Any person slaughtering animals in any slaughterhouse in the vicinity of this city, for sale, shall apply to the meat inspector or inspectors, whose duty it shall be to examine the animal or animals before and after slaughtering. Any person importing any carcass or part of carcass shall apply to said meat inspector for an inspection thereof, and when required furnish the meat inspector with a written statement showing where the said animal was slaughtered.

SEC. 5. No animal or any part thereof shall be offered for sale within this city until the same shall have first been inspected by the meat inspector and a permit for the sale thereof been duly granted by him.

SEC. 6. Nothing in this ordinance shall be so construed as to prevent farmers who have raised their own stock and who are not engaged in the meat business in the city of Lake Charles from bringing meat into said city, provided such meat shall have attached intact the following organs: The heart, liver, lungs, tongue, spleen, and kidneys. This meat, however, can not be sold in the city of Lake Charles unless inspected and passed by the inspector who is authorized to and may require a sworn statement from the person so exposing and offering this meat for sale that the same has been raised by him.

SEC. 7. It shall be unlawful to blow any meat intended for sale in the city of Lake Charles.

SEC. 8. It shall be the duty of any and all persons transporting, or carrying, meat in wagons, carts, or other conveyances, in the city of Lake Charles, for sale therein, to keep said wagons, carts, or other conveyances in a clean and sanitary condition, and to prevent the accumulation of dirt or filth in said wagons, carts, or vehicles while transporting or carrying meat therein. Meat carried therein shall be properly wrapped or covered and protected from dust and flies.

SEC. 9. The meat inspector shall have the right and authority to examine said wagons, carts, or vehicles used in the transportation, or carrying of meat, in the city of Lake Charles, for sale therein, and it shall be his duty to condemn and destroy any meat found in any wagon, cart, or other vehicle if said wagon, cart, or vehicle, or the covers of such meat, be in an unclean condition.

SEC. 10. All meats, livers, lungs, spleens, tongues, brains, and kidneys brought into the municipality shall be removed from the boxes, or shall have the material in which they are shipped removed, so that the meat inspector can thoroughly examine such meats or organs.

SEC. 11. All persons desiring to operate a meat or fish market in the city of Lake Charles shall first apply to the health officer for a permit for same, and if after a report of the market inspector to the effect that the premises are constructed and equipped in accordance with this ordinance the permit shall be issued. These permits shall be for one year and be nontransferable. They shall be renewable each year from June 1, provided that permits dated subsequent to June 1 shall expire May 31 of the following year.

SEC. 12. All meat, fish, and oyster markets shall be completely screened and protected against flies; floors shall be smooth and tight, and thoroughly scrubbed once each day; running water with lavatory shall be provided; scraps of meat, offal, bones, and other refuse matter shall not be exposed to the atmosphere of the room, but must be kept in a closed receptacle which must be emptied daily. Meat for sale must not be kept exposed to the air, except in such quantities as are needed for daily use, but

shall be kept in adequate refrigerators. All tainted meats must be at once removed from the premises. The fixtures, room, and premises must be maintained in a thoroughly sanitary condition. Meat shall not be hung outside any market.

SEC. 13. The charge for post-mortem inspection of meat shall be as follows: Beef, per carcass, 50 cents; calves, per carcass, 25 cents; sheep, over 50 pounds, 25 cents; sheep, under 50 pounds, 15 cents; hogs, over 50 pounds, 25 cents; hogs, under 50 pounds, 15 cents; goats, per carcass, 15 cents. Packing-house products as follows: Beef, per carcass, 50 cents; quarter or half carcasses at the same rate. Calves, per carcass, 25 cents; half or quarter carcasses at the same rate; hogs, over 50 pounds, per carcass, 25 cents; half or quarter carcasses at the same rate; hogs, under 50 pounds, 15 cents; half or quarter carcasses at the same rate. Sheep or goats, over 50 pounds, 25 cents per carcass; half or quarter carcasses at the same rate. Sheep or goats, under 50 pounds, 15 cents per carcass; half or quarter carcasses at the same rate. Beef and pork loins, 10 cents per hundred pounds. Liver, brains, and all other parts of fresh meat not enumerated above, and imported by packing houses, or other persons, shall be charged 10 cents a hundred pounds. No fees shall be charged for antemortem examinations.

SEC. 14. Whosoever shall violate the provisions of this ordinance shall be deemed guilty of a misdemeanor, and be subject to a fine of not more than \$100 or imprisoned for a term not exceeding 30 days, or both, at the discretion of the court.

#### **Milk and Milk Products—Production, Care, and Sale. (Ord. June 12, 1913.)**

SEC. 1. From and after this ordinance becomes operative, it shall be unlawful for any person, firm, or corporation either as principal or through its agents, servants, or employees, to maintain or operate a dairy or dairy farm, or to give, sell, exchange, barter, delivery, or have in possession for gift, sale, exchange, barter, delivery, use or consumption as a food for human beings in the city of Lake Charles any milk or other dairy product without first having obtained from the proper health authority of the city of Lake Charles a permit so to do as hereinafter provided.

SEC. 2. To obtain such permit the applicant shall present a written application or appear in person before the city board of health or officer designated by it, and give such information as the health officer may require. If on investigation it appears to the health officer that the applicant has complied with the requirements hereinafter stipulated, a permit shall be issued to said applicant without cost to him, which permit shall be personal and nontransferable, must be at all times conspicuously exposed in the dairy, and which shall at all times be revocable for cause by the city board of health, which action will not be taken by said board except after hearing the claims of the holder of said permit.

SEC. 3. No permit shall be issued to any applicant whose premises, pastures, buildings, milk stock, and equipment used in business is found by the health authority not to comply with the following stipulations, to wit:

The buildings used for stabling and milking cows shall be well constructed, lighted, and ventilated, and shall be provided with sufficient feed troughs or boxes and watertight floor of wood or cement properly inclined or channeled to drain immediately; and shall contain not less than 300 cubic feet of clear air space for each cow. The ceiling above, if loft is used, shall be tight.

All dairies must be provided with a milk room with tight walls and floor of such construction as to allow of easy and thorough cleaning, with no openings into any room or portion of building which is used for the stabling or milking of cows, or the keeps of horses, dogs, cats, fowls, or any domestic animal, or which is used in whole or in part for domestic or sleeping purposes.

All utensils used for handling milk and its products shall be made of nonabsorbent material, and shall be kept clean and wholesome at all times.

All dairies and dairy farms shall be supplied with an adequate supply of pure and uncontaminated water.

All premises surrounding dairy buildings and pastures to which milk stock have access shall be kept well drained and free from filth. No privy, water-closet, or cess-pool shall be maintained within 150 feet of any dairy building.

All milk stock shall be free from any contagious or infectious disease, or local or general disease which is liable to render the milk from said cow unwholesome.

Sec. 4. Such a permit shall remain in force for one year from date of issuance unless revoked for cause in the manner hereinafter set out. It shall be kept at all times conspicuously displayed in the dairy or place of business of the holder. Said permits shall be numbered, and the number thereof must be displayed in letters at least 2 inches high on both sides of all vehicles used by the holder in his business in this manner: Health permit No. —.

After obtaining such permit the holder must at all times comply with all requirements of this act, and all such ordinances on the same subject matter that may be enacted.

Any permit may be revoked at any time by the city board of health whenever in their opinion the holder is not complying with any of the requirements of this ordinance and other ordinances on the same subject, or refuses to obey the stipulations thereof.

Sec. 5. Every person maintaining cows for dairy purposes shall permit them to be examined from time to time, without cost to the owner, as to their freedom from disease; and if found free from disease, they shall be registered and tagged and allowed to remain in the dairy or dairy farm.

It shall be unlawful to remove a tag from one cow and put it on another, nor shall a tagged cow be removed from one dairy or dairy farm to another without the health officer being notified by the owner.

Any cow which is found by the veterinarian or veterinarians designated by the board of health to be suffering from tuberculosis or any other disease which is liable to render the milk of said cow unwholesome, shall be removed from the dairy or dairy farm and isolated at the expense of the owner until cured or declared incurable by said health authority; and if declared incurable shall be destroyed, and the carcass cremated by the veterinarian designated by the board as dairy inspector.

In the event that the clinical evidence is such as to leave a doubt in the mind of the veterinarian or veterinarians designated by the board of health as to the existence of tuberculosis, it shall finally be determined by the application of the tuberculosis test applied by the veterinarian or veterinarians designated by the board of health, and if such cow or cows react to said test said cow or cows shall be treated and disposed of as hereinabove provided.

Every person maintaining a dairy shall keep the premises and all appurtenances for the handling of milk clean.

No cow shall be fed on swill or any unhealthy food, or food undergoing fermentation.

Sec. 6. No milkmen shall deliver milk and its products in bottles or receptacles to any house or persons infected with any contagious or infectious disease, nor shall he at any time fill or refill any bottle while on the wagon or vehicle used for distributing milk.

Milkers and those engaged in the handling of milk or other dairy products shall maintain strict cleanliness of their hands and persons while milking or engaged about the dairy, and no person suffering from, or who has knowingly within a period of 10 days been exposed to, diphtheria, scarlet fever, smallpox, anthrax, glanders, tuberculosis, or other contagious or infectious disease, or any skin or venereal disease shall work or assist in or about any dairy or dairy farm supplying milk to this city, and it shall be the duty of any person holding a permit under this ordinance to enforce this regulation in reference to such persons as may assist them in the maintenance thereof.

It shall be unlawful for any person, firm, or corporation to carry on any wagon or vehicle upon or from which milk or other dairy product is being brought, carried,



stored, deposited, sold, exchanged, delivered, distributed, or offered or exposed for sale or distribution as food for any human being, any swill, garbage, refuse, or any decaying food or fermenting, putrifying, foul, unwholesome, noxious, or filthy matter or any cans or receptacles containing any material or substance with which milk or cream may be diluted, adulterated, or rendered impure, unhealthy, or unwholesome.

All applications prescribed by this ordinance shall be made within 30 days from promulgation of this ordinance, provided that no applicant shall be restricted from doing business until his application shall have been acted upon by the health authority.

SEC. 7. The health authority, its officers, agents, and employees, shall have the right at any and all times to enter upon or into the premises of any vendor or distributor of milk or other dairy product, or upon any wagon or vehicle used in the sale or distribution of milk or other dairy product for the purpose of examining the same and all appliances and utensils therein or thereon.

SEC. 8. The term dairy or dairy farm used in this ordinance shall apply to the business conducted by any person milking more than two cows and selling the milk and its products to the general public, or to dealers for resale.

SEC. 9. Any violation of any of the provisions of this ordinance is declared to be a misdemeanor and any person on conviction thereof shall be fined not more than \$25, or imprisoned not more than 30 days, or both, at the discretion of the city judge.

#### LAWRENCE, MASS.

#### **Tuberculosis—Children from Infected Houses Must not Attend School. (Reg. Bd. of H., Mar. 19, 1913.)**

Children residing in a house where pulmonary tuberculosis is known to exist shall be excluded from the schools while the person or persons affected with pulmonary tuberculosis continue to reside in the same house.

#### **Tuberculosis—Disinfection. (Reg. Bd. of H., Mar. 19, 1913.)**

Upon the death, recovery, or removal of a person sick with consumption or pulmonary tuberculosis, the board of health shall disinfect each room or rooms with their contents as in the opinion of the board has been exposed to infection or contagion, and the owner shall be notified to repaper the walls and repaint the woodwork.

#### **Communicable Diseases—Quarantine. (Reg. Bd. of H., Mar. 26, 1913.)**

SECTION 1. Whoever is infected with smallpox, scarlet fever, diphtheria, measles, typhoid fever, varicella, cerebrospinal meningitis, anterior poliomyelitis or any other disease dangerous to the public health, shall immediately proceed to some isolated place or room designated by the board of health, and no person who has been so affected shall leave such place or room, and no article shall be removed from such place or room until the board of health shall certify in writing that all danger of communicating such disease to others is passed.

SEC. 2. Every person or guardian of any child or ward infected with smallpox, scarlet fever, diphtheria, measles, typhoid fever, varicella, cerebrospinal meningitis, anterior poliomyelitis, or other disease dangerous to the public health, shall immediately cause such child or ward to be conveyed to some isolated place or room approved by the board of health, and no parent or guardian shall permit such child or ward to remove from such place or room until the board of health shall find and certify in writing that all danger of communicating such disease to others has passed.

SEC. 3. No person other than the attending physician, nurse, and agents of the board of health shall enter, nor shall any dog, cat, or other animal be allowed to enter any apartment or other place set apart for the treatment of smallpox, scarlet fever, diphtheria, measles, typhoid fever, varicella, cerebrospinal meningitis, anterior poliomyelitis, or any other disease dangerous to the public health until the board of health shall certify in writing that such apartment or place has been satisfactorily disinfected.

**SEC. 4.** No person having the case of any other person who has been infected with smallpox, scarlet fever, diphtheria, measles, typhoid fever, varicella, cerebrospinal meningitis, anterior poliomyelitis, or any other disease dangerous to the public health shall advise or permit such other person to leave any place designated by the board of health as a place of isolation of such infected person before said board of health shall have certified in writing that such person can leave such designated place without danger to others.

**SEC. 5.** No physician who has been in attendance upon any person who has been infected with small pox, scarlet fever, diphtheria, measles, typhoid fever, varicella, cerebrospinal meningitis, anterior poliomyelitis, or any other disease dangerous to the public health, shall advise or knowingly permit such person to leave any place designated by the board of health as a place of isolation of such infected person before said board of health shall have certified in writing that such infected person can leave such place without danger to others.

**Milk and Cream—Bottling Required When Sold at Retail. (Reg. Bd. of H., June 9, 1913.)**

Every person or corporation engaged in the business of delivering or selling milk or cream in the city of Lawrence to be delivered to private families and in stores which sell at retail must have the milk put in bottles at their milk room, properly sealed, and that milk delivered at wholesale to hotels, restaurants, hospitals, and boarding houses can be delivered in cans.

In violation of the provisions of this act the first offense shall be punished by a fine of \$25 or not more than \$50, and for a subsequent offense revocation of the license.

**LOGANSPOUT, IND.**

**Garbage—Care and Disposal. (Ord. June 3, 1913.)**

**SECTION 1.** For the purpose of promoting the comfort of the citizens and the cleanliness of the city and preventing noxious and offensive odors therein, and for the purpose of facilitating and assisting the board of public works of the city in collecting, conveying, and disposing of kitchen garbage, it shall be unlawful for any person to throw out, empty, or place on any lot, ground, street, or alley in the city any kitchen garbage, slops, vegetables, or animal waste commonly called garbage, at any time, but each and every person, firm, or corporation making or having such garbage thereof, except drainage, in a steel or iron can, which shall not be of less than 5 nor more than 20 gallons capacity, so constructed that when the can is emptied the cover thereof will revert to its place, and when upset the cover will remain over the top of the can, so as to prevent the garbage from being emptied upon the ground. The can shall be of sufficient size to hold not less than three days' collection of garbage.

**SEC. 2.** The head of every family or any person having control of or occupying any place or premises where such garbage is made shall deposit the same in a can, as provided in section 1 of this ordinance, which can must be placed by such head of every family, or person herein described, in a place on a level with the street or alley easily accessible to the garbage collector. When such can becomes leaky or defective from any cause, it must be renewed or properly repaired. If such can becomes filthy, it must be properly cleansed by the owner thereof.

**SEC. 3.** After the garbage collector has emptied the can, he shall leave it at the place where he found it and see that the top of the can is properly re-covered. The garbage collector in emptying such can shall not injure or punch holes in the same.

**SEC. 4.** It shall be unlawful for any person, firm, or corporation to interfere with, remove, or in any way injure any such garbage cans, other than provided for in this ordinance.

**SEC. 5.** Any person, firm, or corporation violating any of the provisions of this ordinance shall, upon conviction, be fined not more than \$50 for every such violation.